Design and the Formation of Taste in the British Printed Calico Industry, 1919 to 1940

Volume III

Figures and Appendix

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Rohit Tailor
De Montfort University
08/05/2015

Chapter 2: Figures

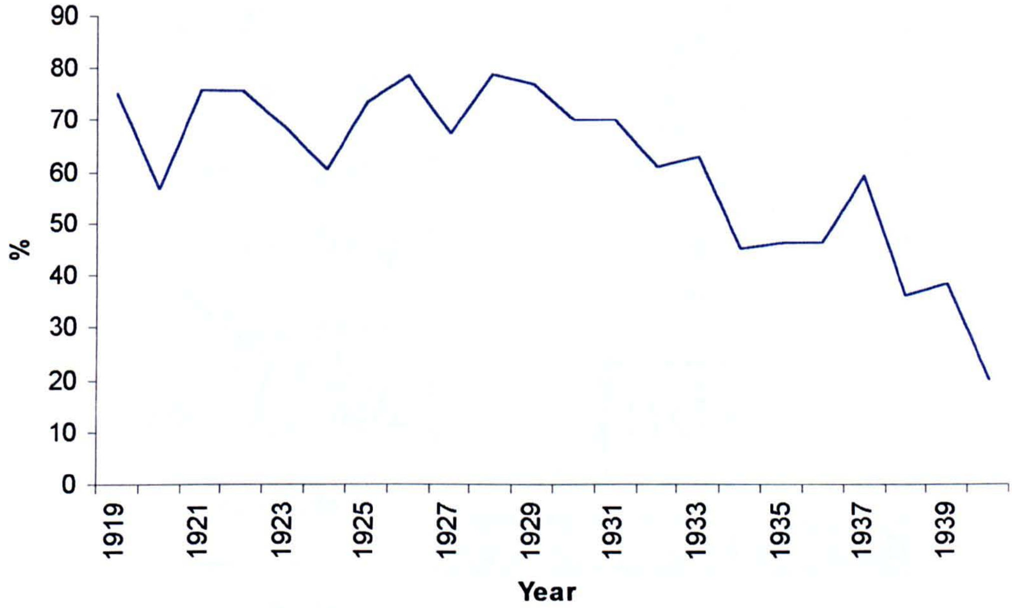

Figure 2.1 Proportion of Registered Designs Owned by Print Companies, 1919-40 (from January samples).

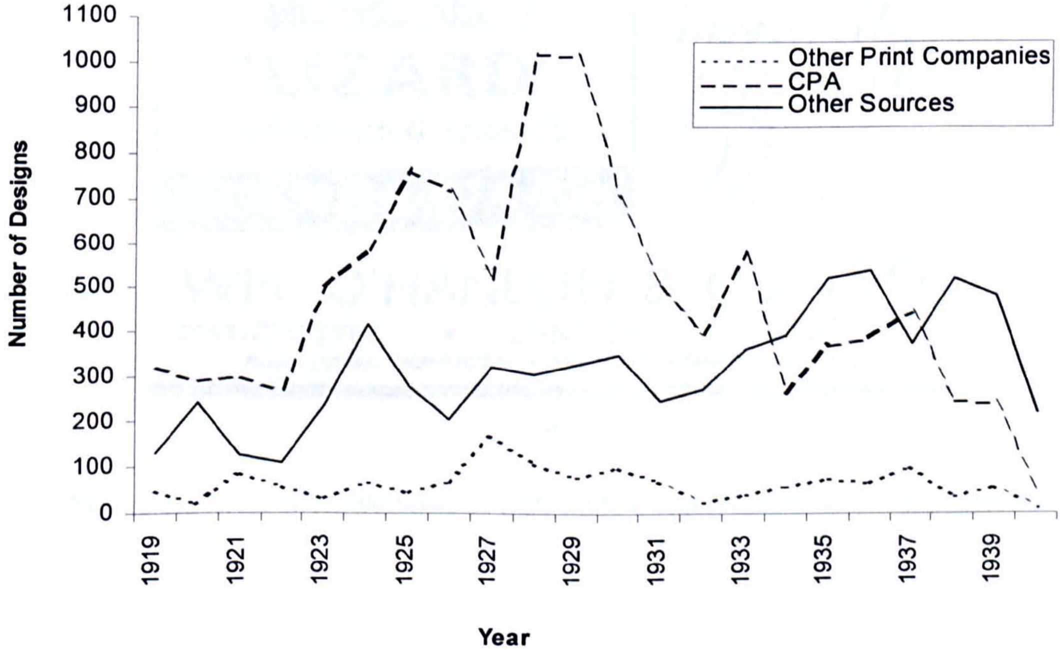

Figure 2.2 Source of Registered Textile Design, 1919-40 (from January samples).

Chapter 3: Figures

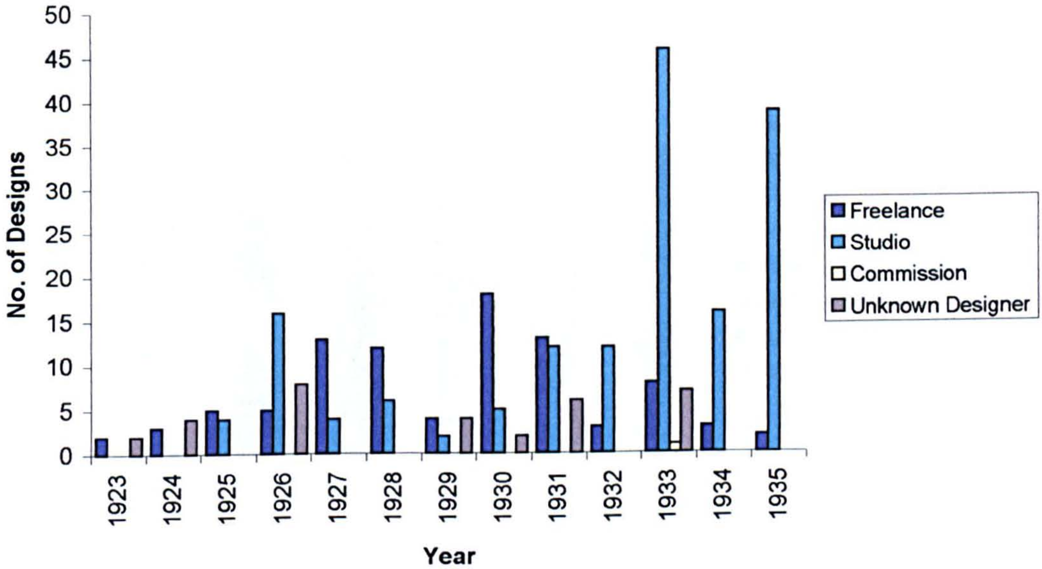

Figure 3.2 Morton Sundour Fabrics Ltd.: New Machine Designs Printed, 1923-35

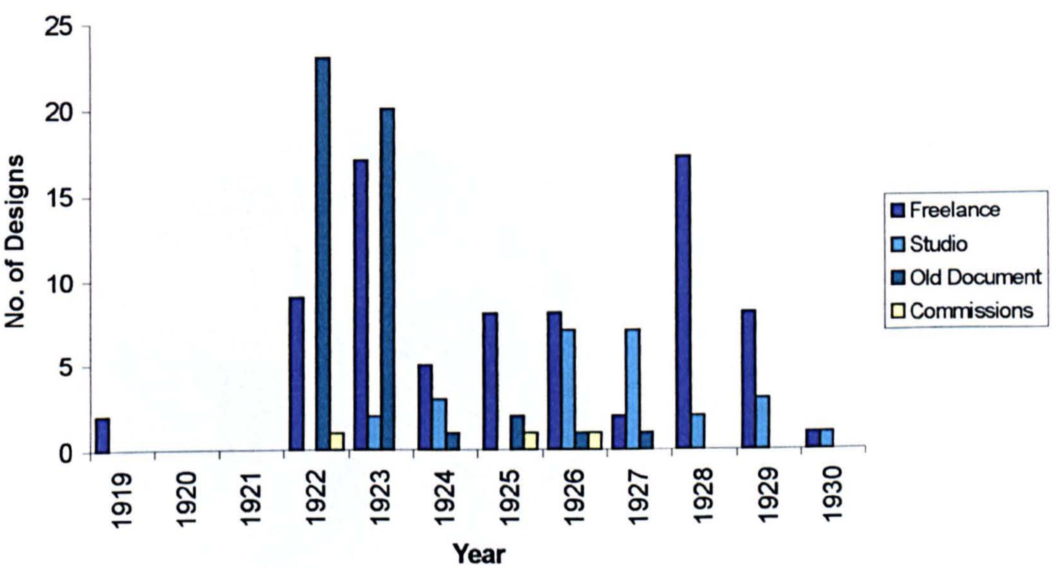

Figure 3.3 A. Morton & Co. Ltd. Designs

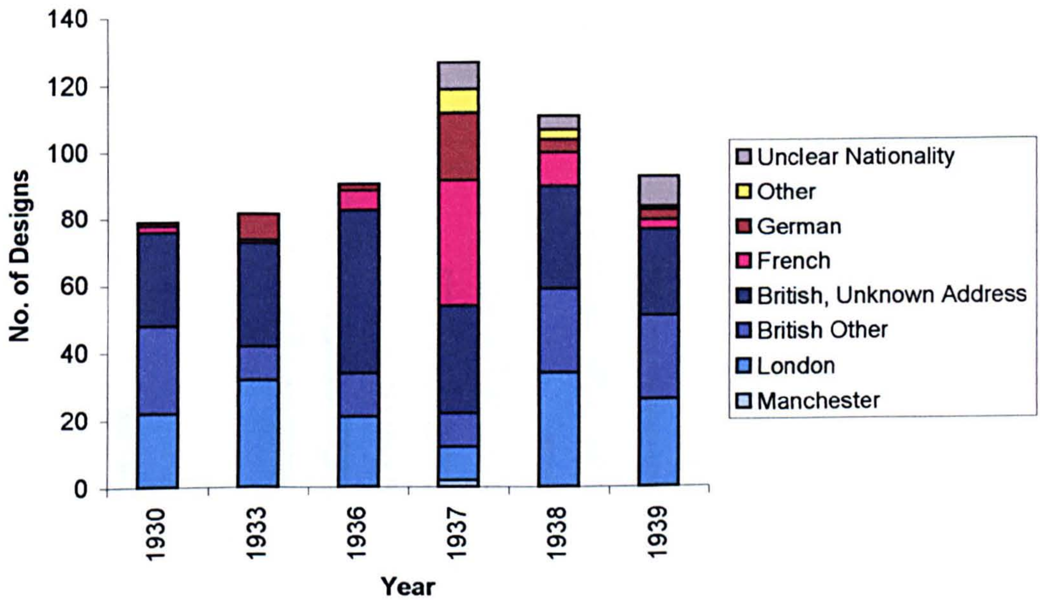

Figure 3.4 Turnbull & Stockdale Ltd: Geographical Source of Freelance Designs

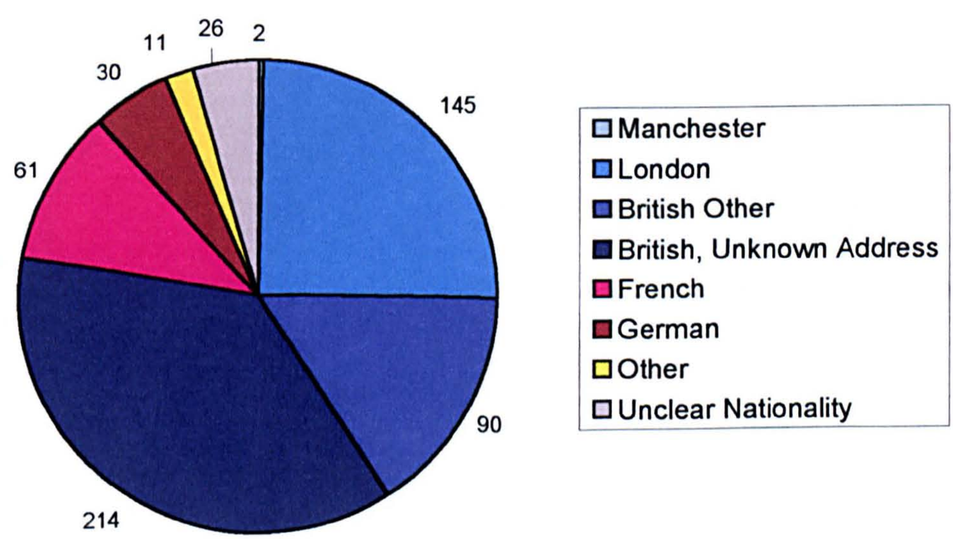

Figure 3.5 Turnbull & Stockdale Ltd: Proportional Analysis of Geographical Source of Freelance Designs

Note: When a design was repeated, either when engaged or if a 1937 design was put into production in 1938-9, only the first example is included in Fig. 2.2 analysis.

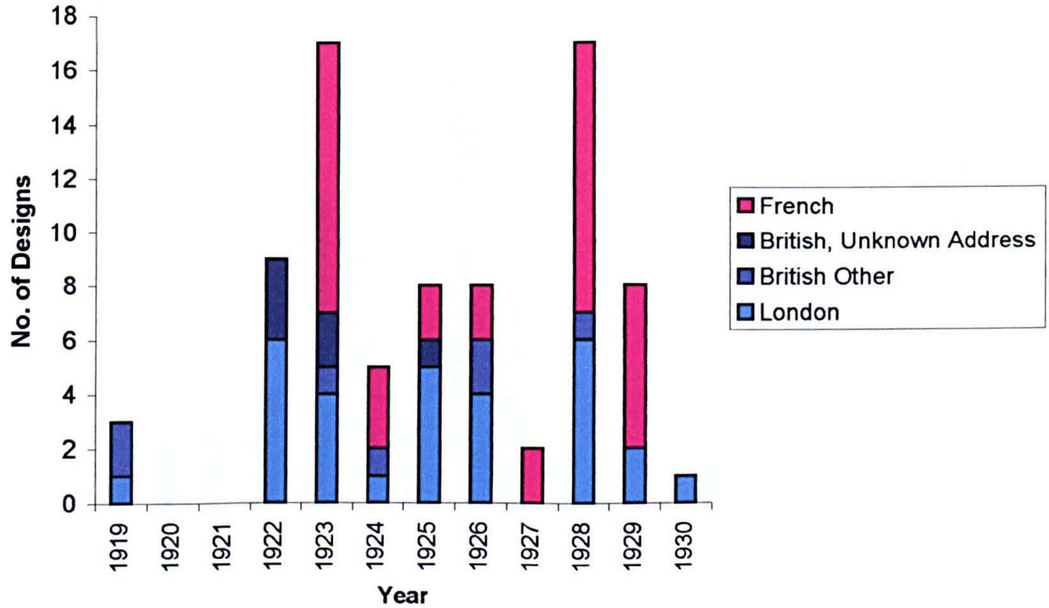

Figure 3.6 A. Morton & Co. Ltd.: Source of Designs, 1919-30

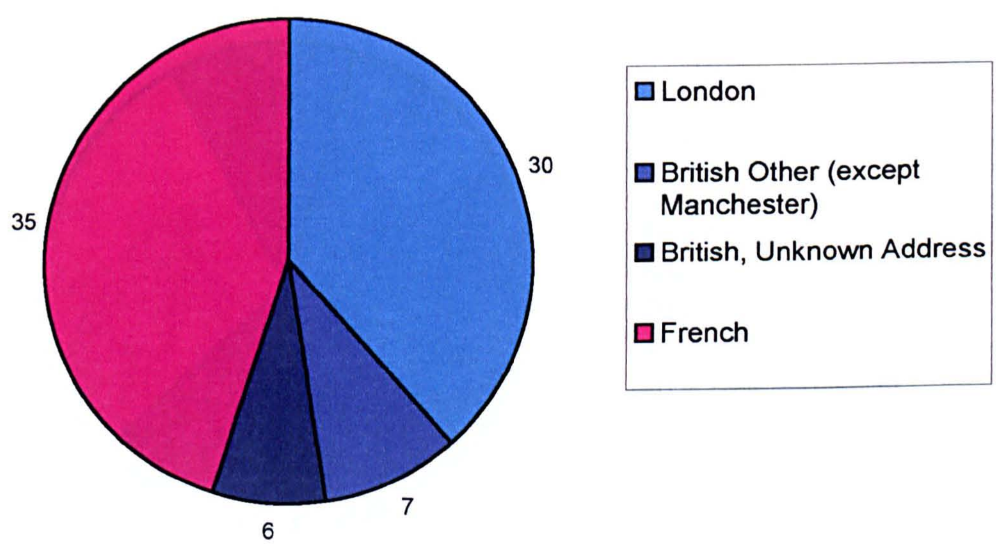

Figure 3.7 A. Morton & Co. Ltd.: Proportional Analysis of Freelance Design Sources, 1919-30

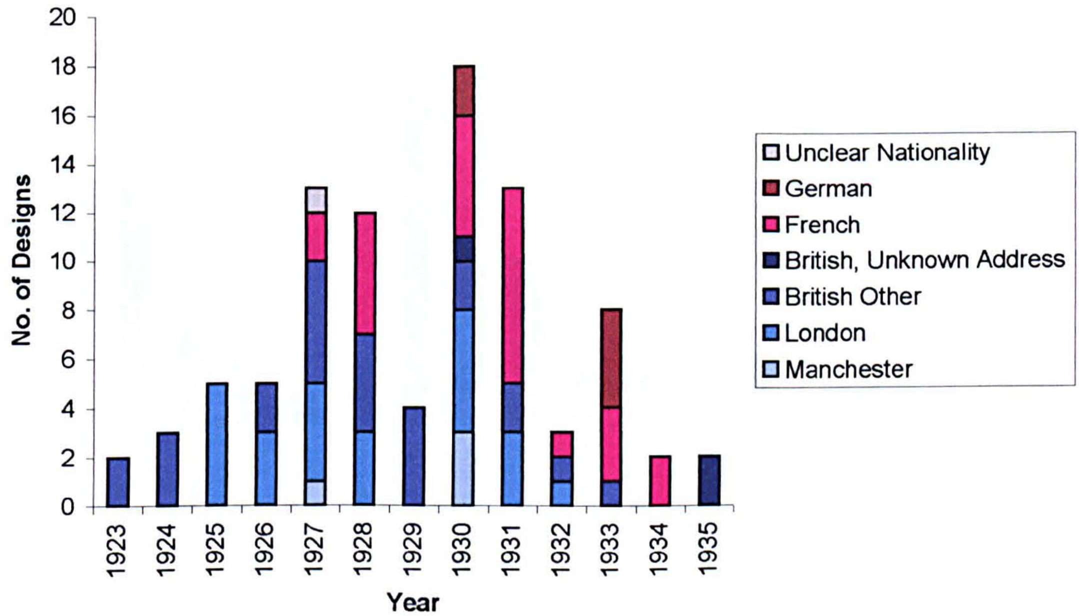

Figure 3.8 MSF Ltd.: Geographical Source of Freelance Designs, 1923-34

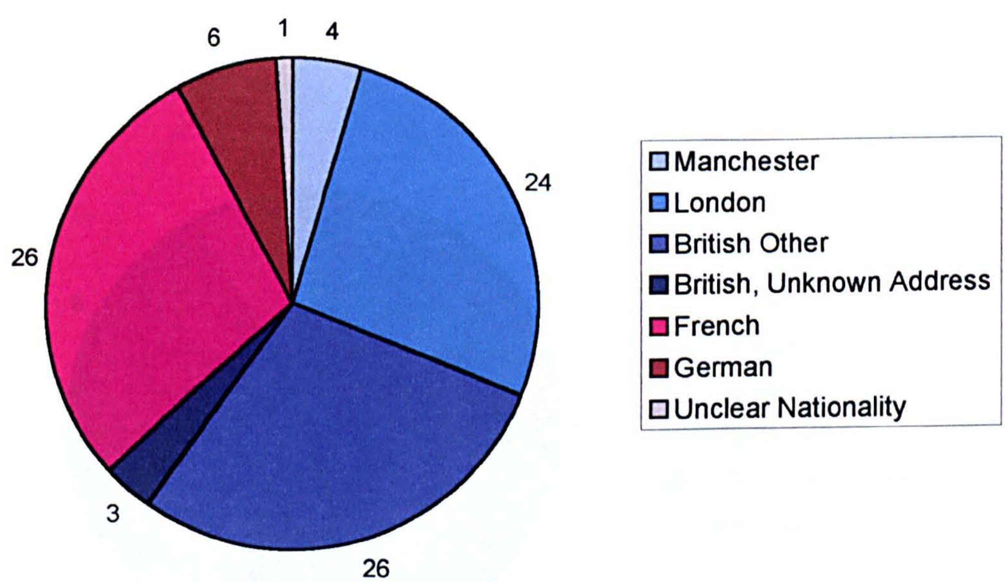

Figure 3.9 MSF Ltd.: Proportional Analysis of Sources of Freelance Designs, 1923 - 34.

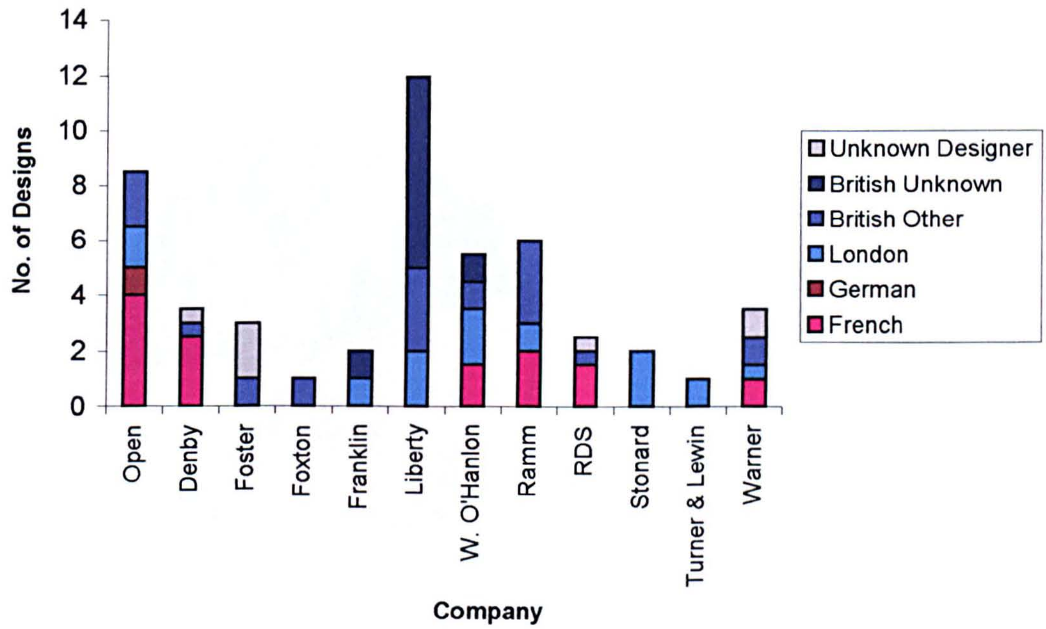

Figure 3.10 Source of Designs for Prints Commissioned to Stead McAlpin Ltd., Analysed by Company, 1932-4. Note: If two companies commissioned a design, it is given as 0.5 for each company.

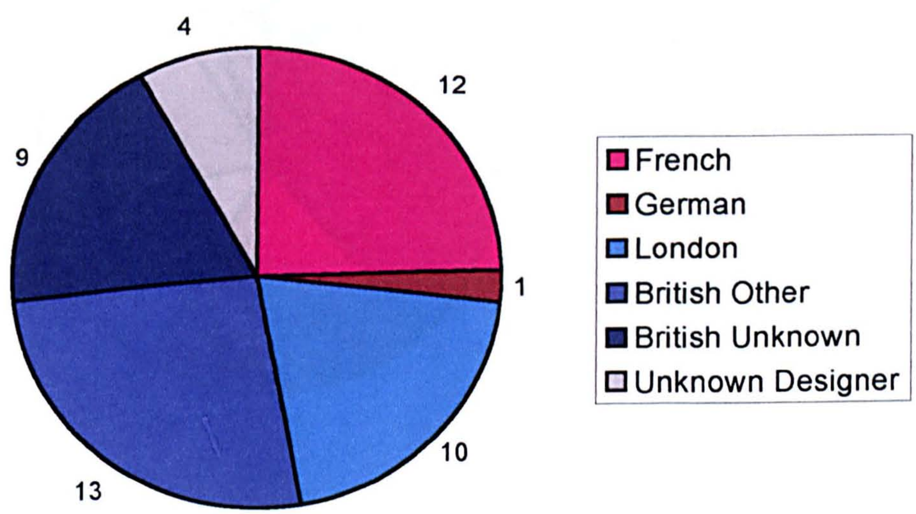

Figure 3.11 Total Stead McAlpin Open and Commissioned Design Sources, 1932-34

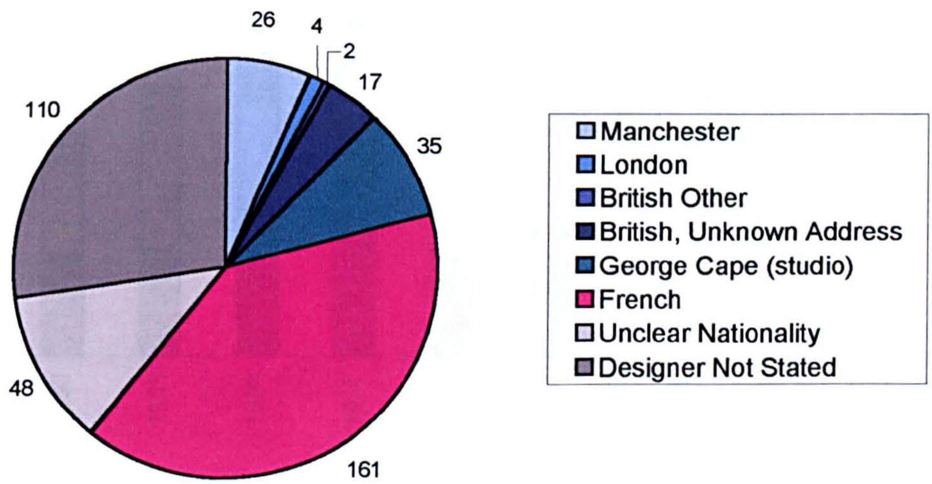

Figure 3.12 Ferguson Bros. Ltd.: Analysis of Design Source, in 1937-40 Trial Book Designs

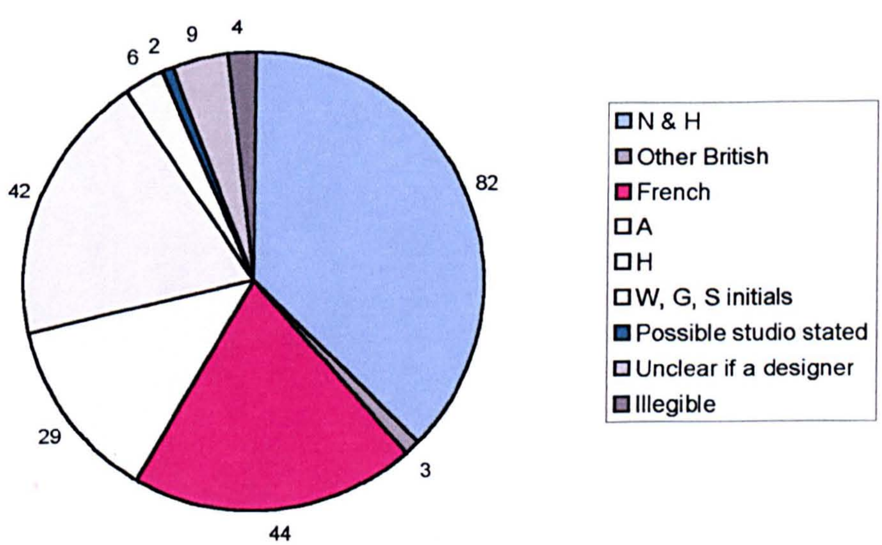

Figure 3.13 CPA Engraving Book: Analysis of Designers Given.

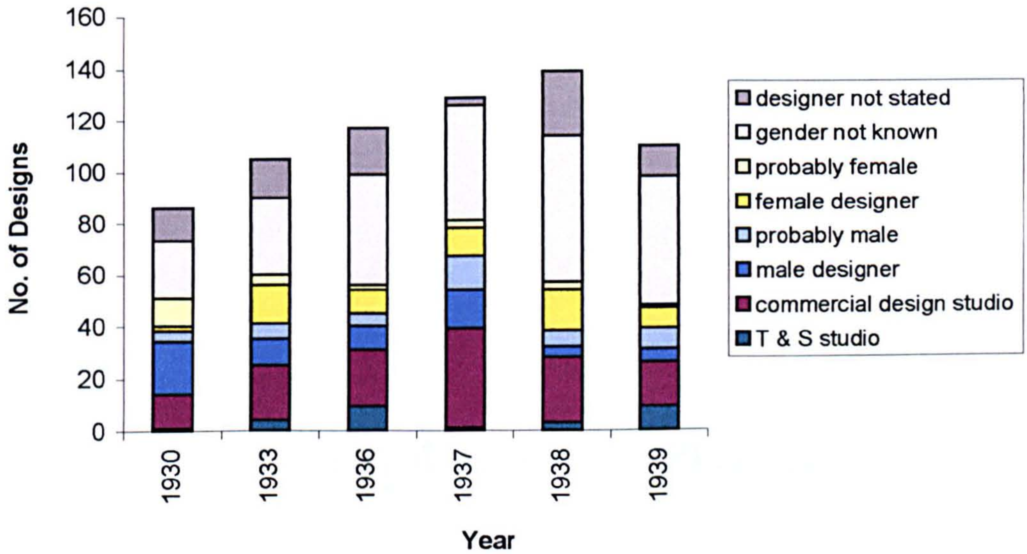

Figure 3.14 Turnbull & Stockdale Ltd.: Gender Analysis of Design Source

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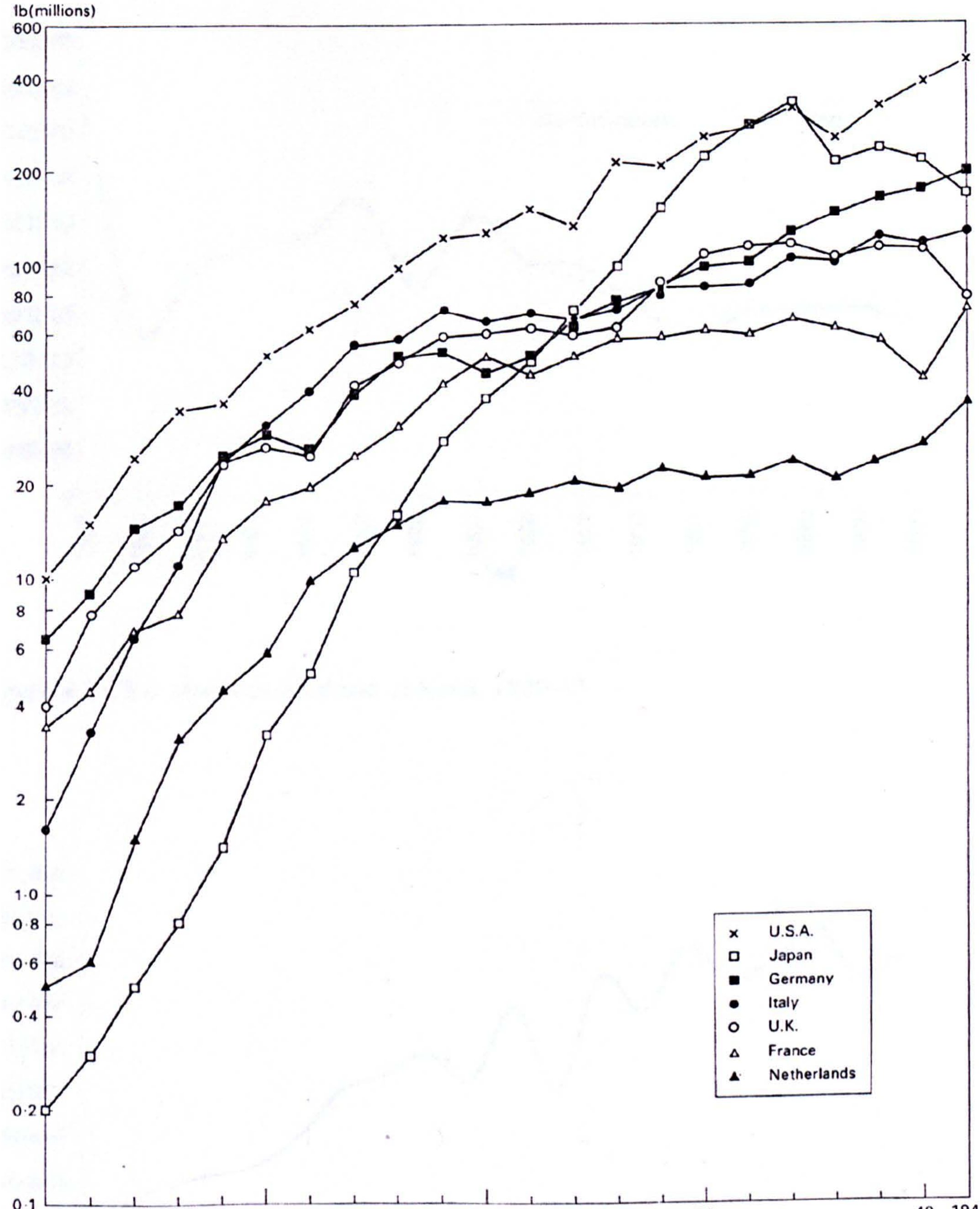

Rayon filament yarn (all types): output by main producing countries, 1920–41

Figure 4.1 International Rayon Yarn Production[1]

[1] Coleman, D.C. *Courtaulds: An Economic and Social History, Volume II,* Clarendon Press, 1969, Fig. 10.

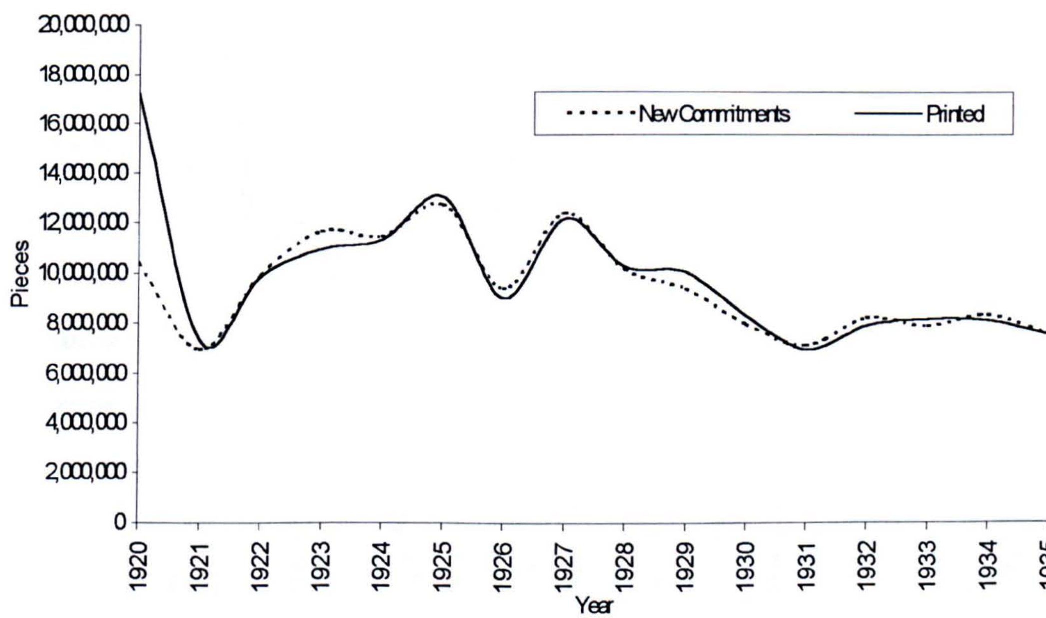

Figure 4.2 CPA pieces printed and ordered, 1920-35.

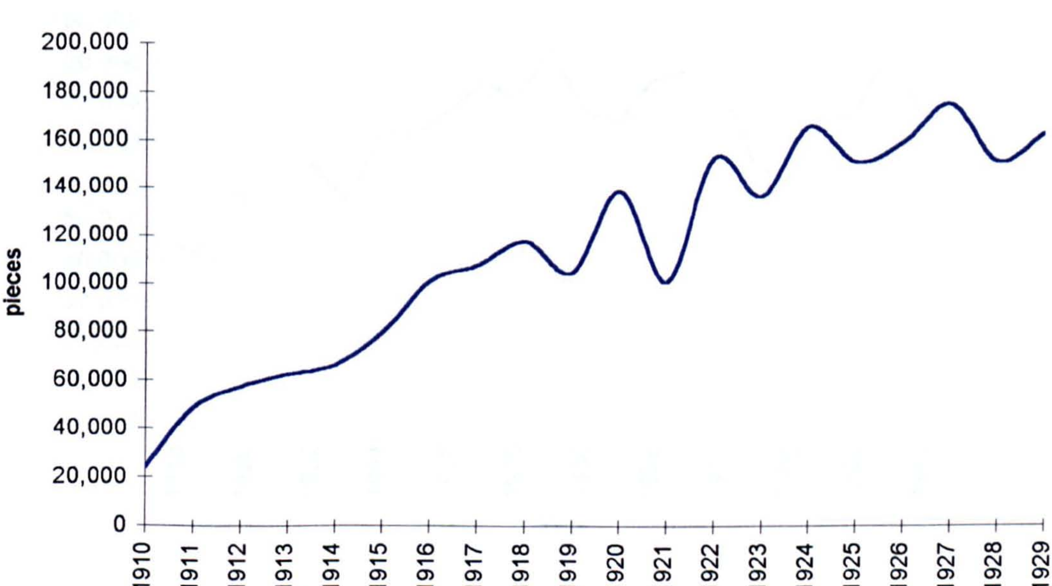

Figure 4.3 Ferguson Bros. Ltd.: Pieces Printed, 1910-29.

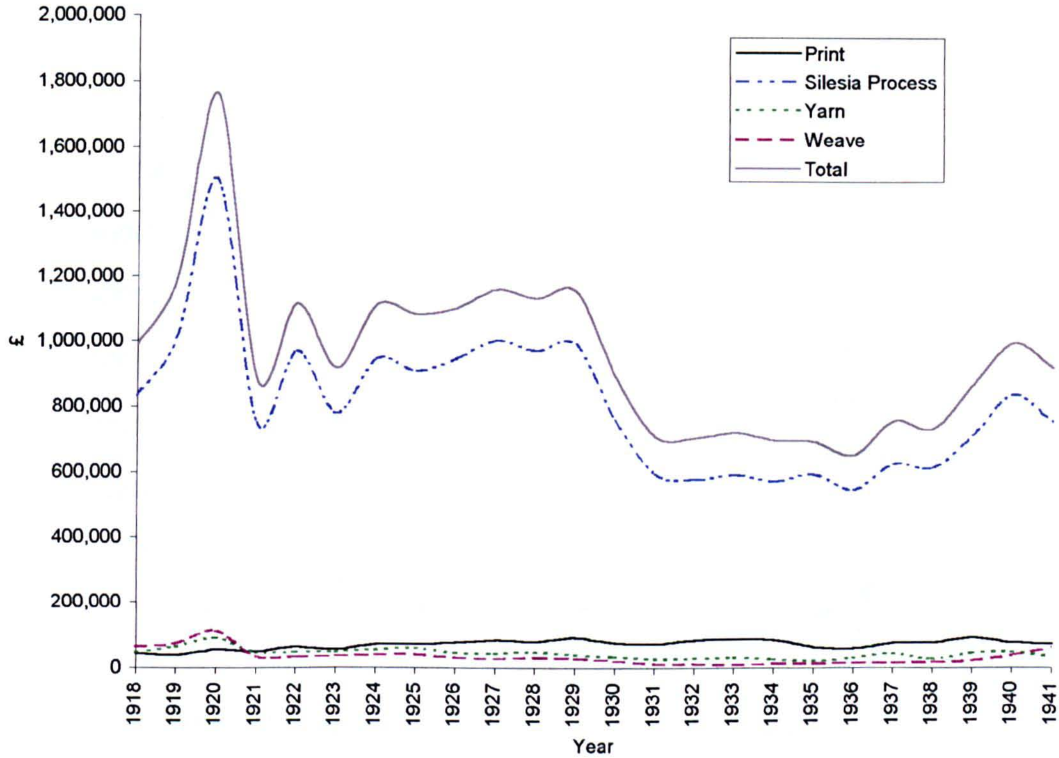

Figure 4.4 Ferguson Bros. Ltd. Sales Income of all Departments, 1918-41.[2]

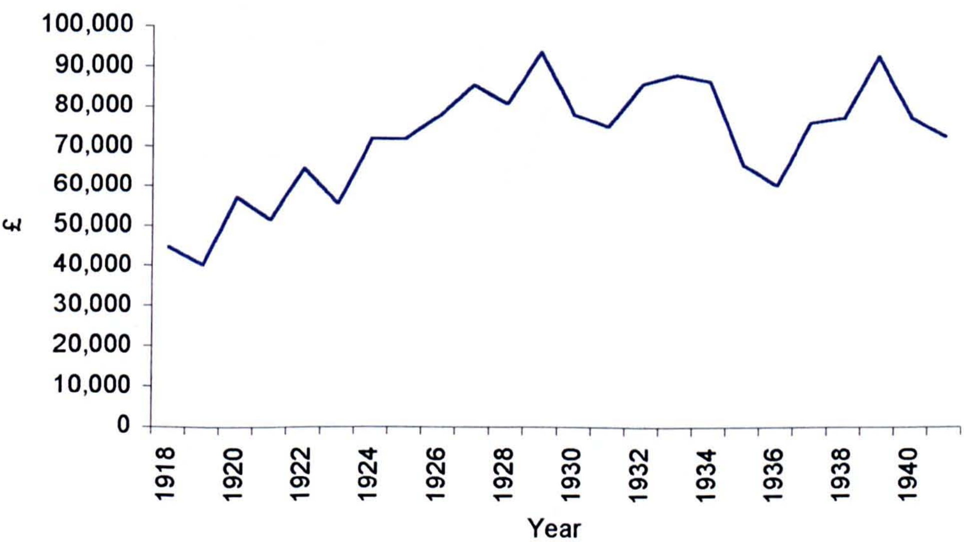

Figure 4.5 Ferguson Bros. Ltd. Print Department Sales, 1918-41.

[2] Data from Carlisle Record Office, DB 110/ 78.

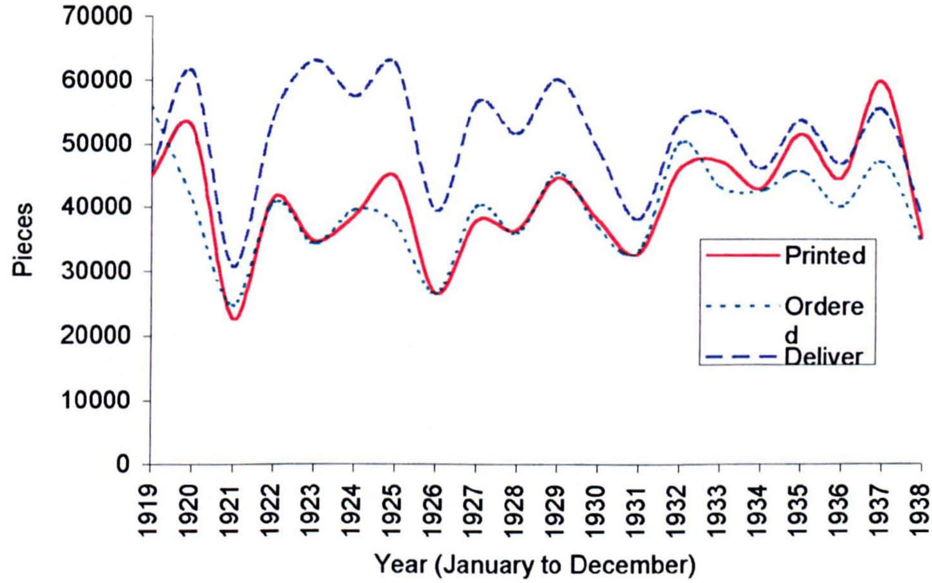

Figure 4.6 Turnbull & Stockdale Ltd.: Pieces Printed, Ordered and Delivered, 1919-38.

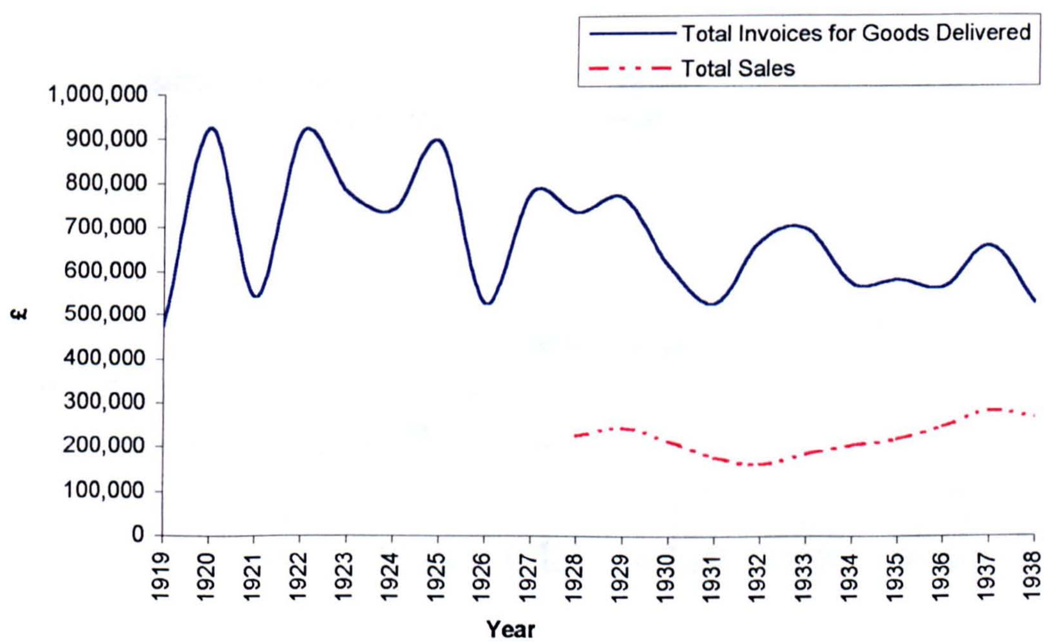

Figure 4.7 Turnbull & Stockdale Ltd. Sales Income and Total Invoices, 1919-38.

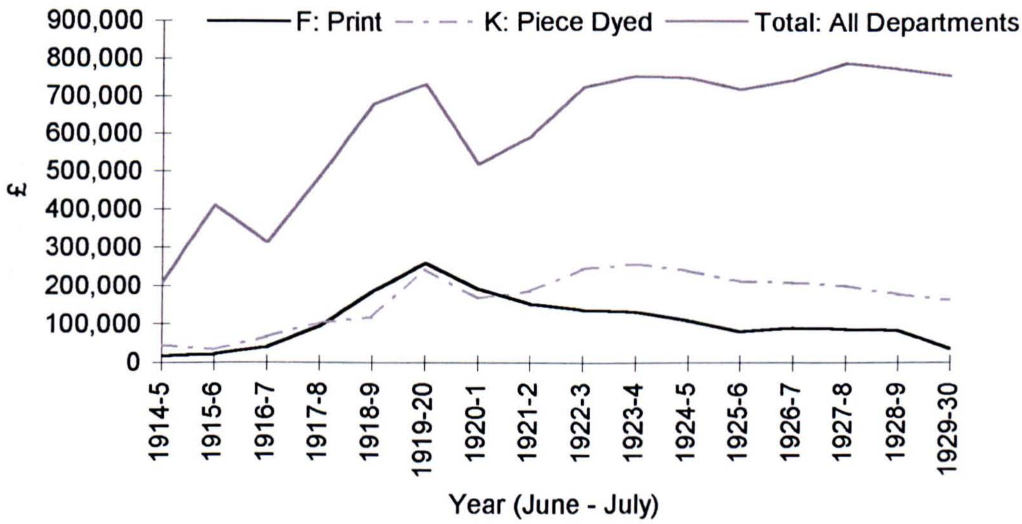

Figure 4.8 Morton Sundour Fabrics Ltd. Sales in F, K and All Departments, 1914-5 to 1929-30.

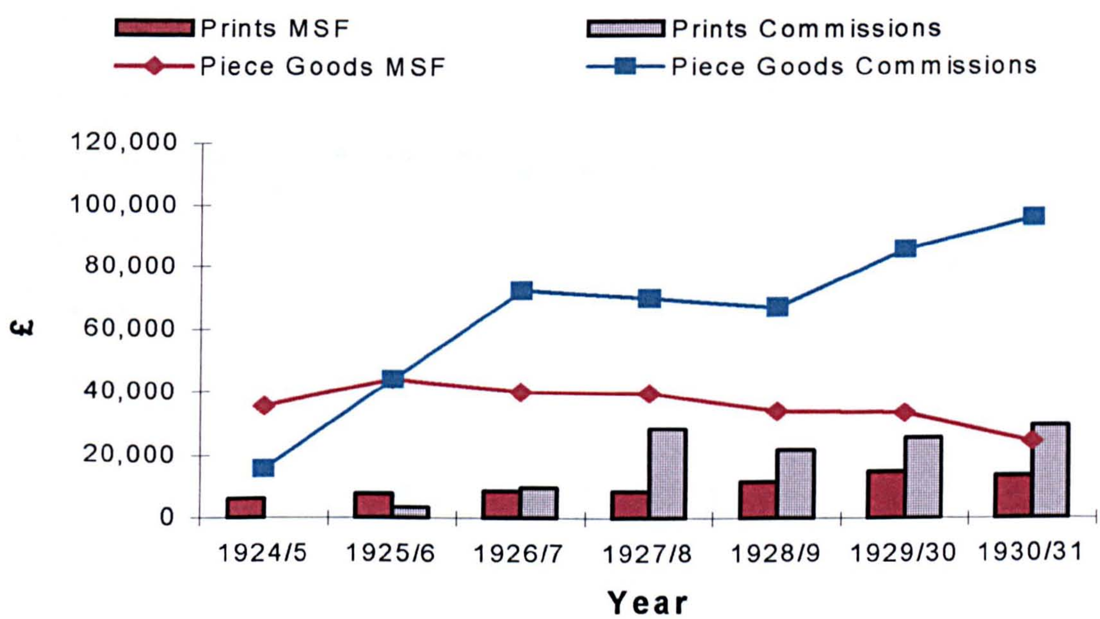

Figure 4.9 Standfast Dyers and Printers Ltd. Sales, 1924/5-1930/1, for MSF and Commission Prints & Piece Goods.

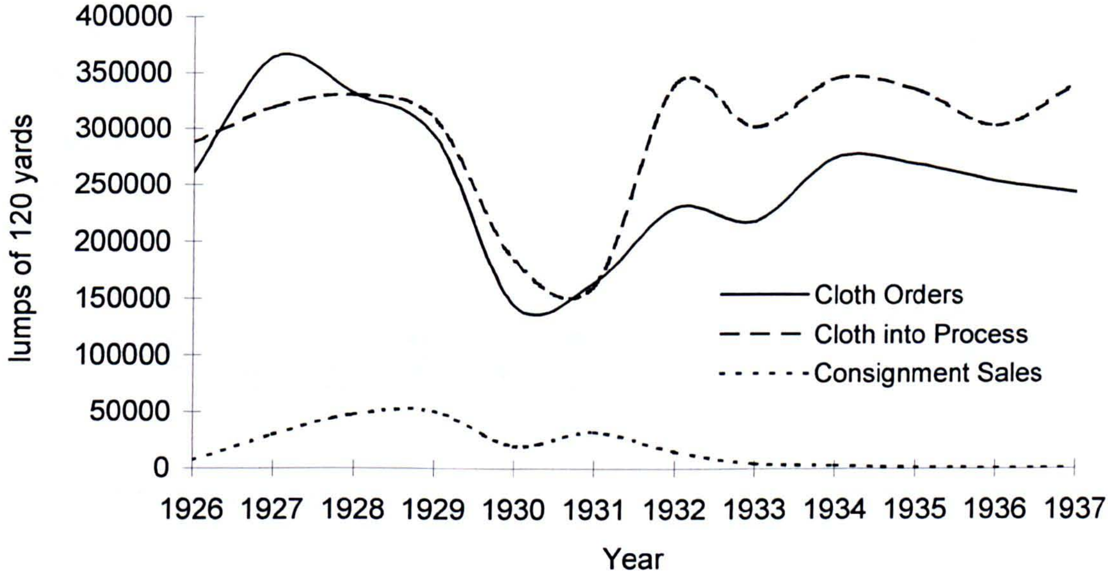

Figure 4.10 UTR Cloth Production, 1926-37.

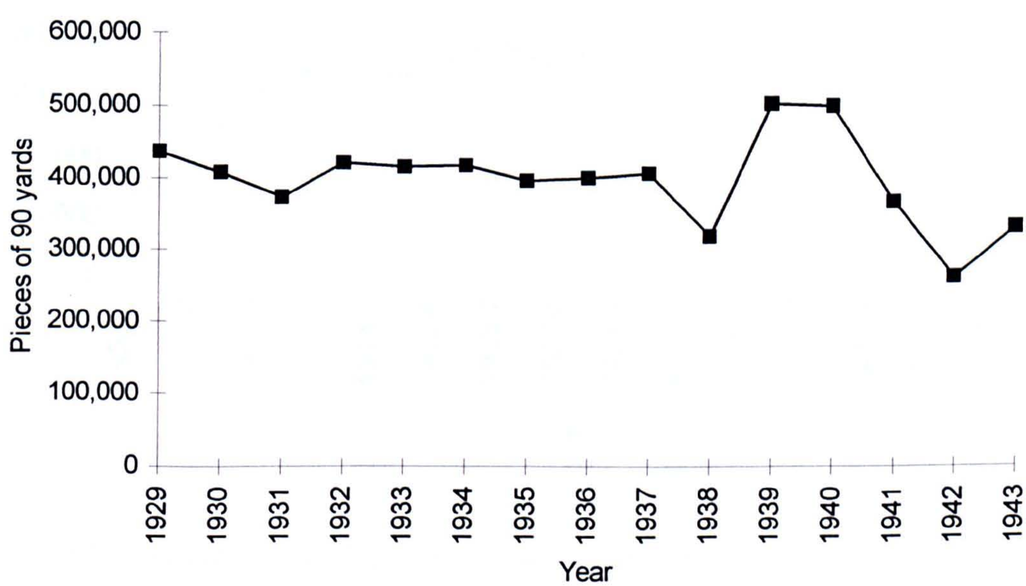

Figure 4.11 J. Chadwick and Co. Ltd. Production, 1929-43.

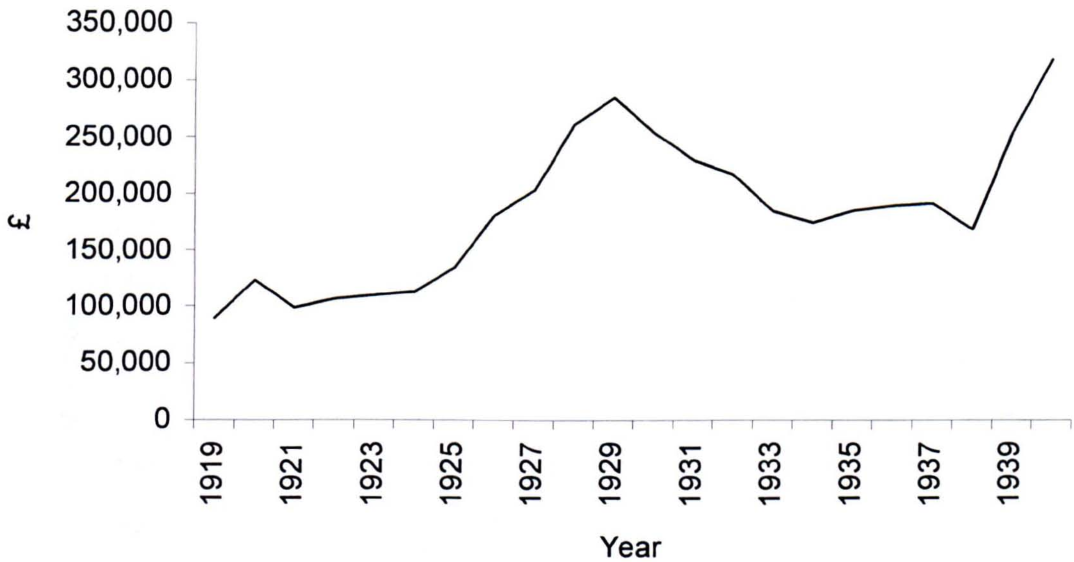

Figure 4.12 J. Chadwick & Co. Ltd. Production Income, 1919-40.

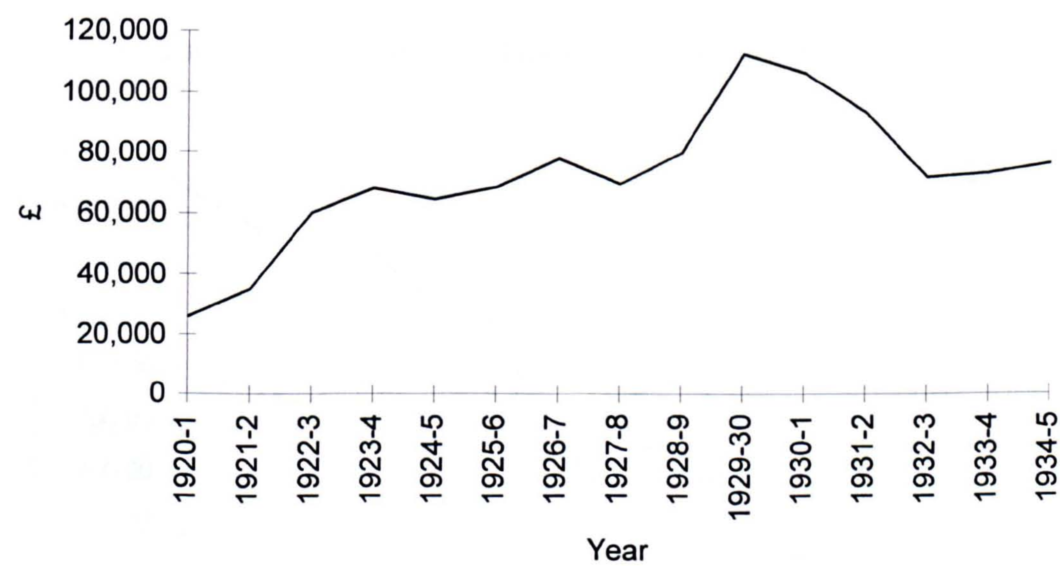

Figure 4.13 Sales at Scottish Dyers and Printers Ltd., 1921/2-1934/5.

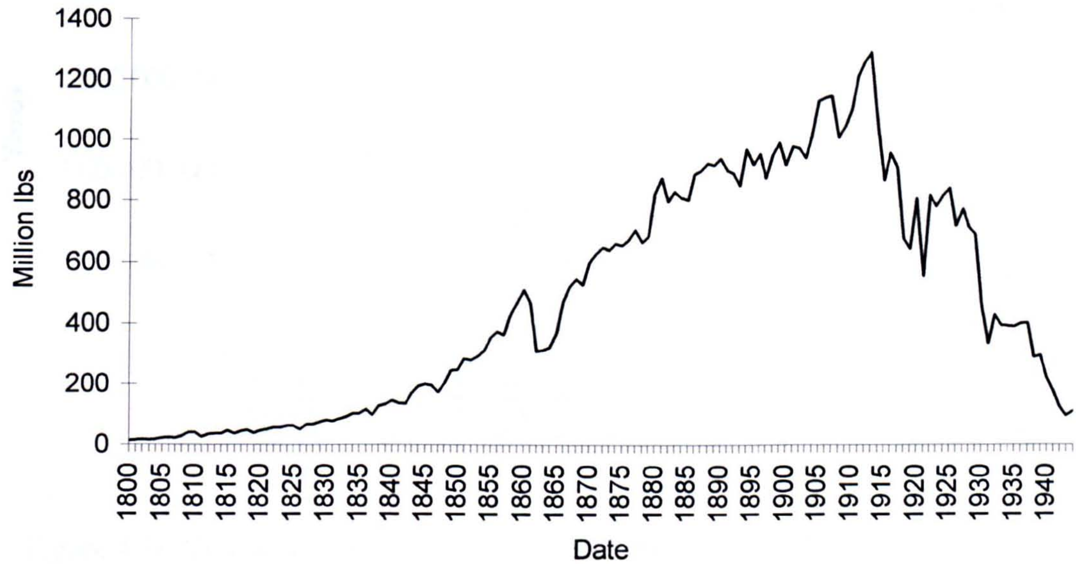

Figure 4.14 Export of British Cotton Piece Goods

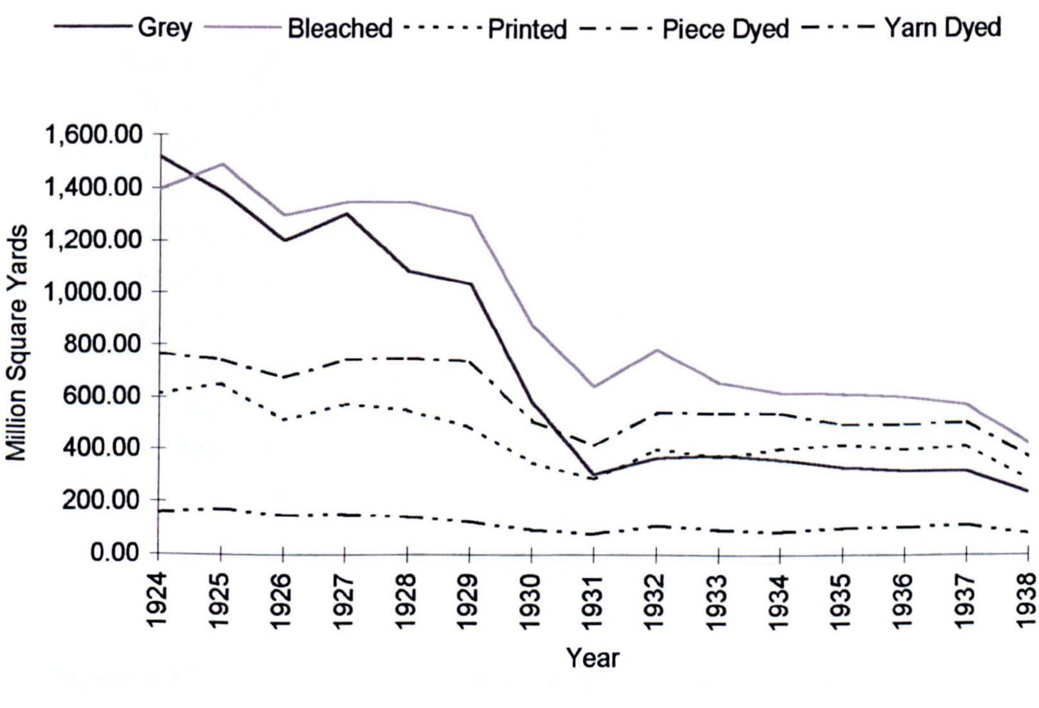

Figure 4.15 Export of Different Types of British Cotton Piece Goods, 1924-8.

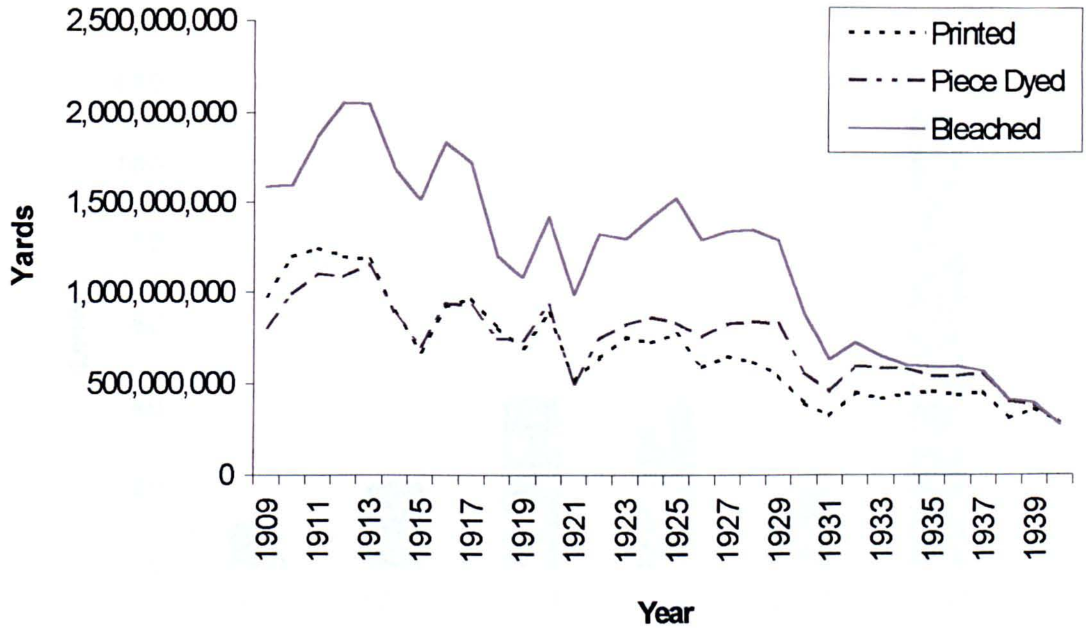

Figure 4.16 Volume of British Finished Cotton Piece Goods Exported, 1909-40.

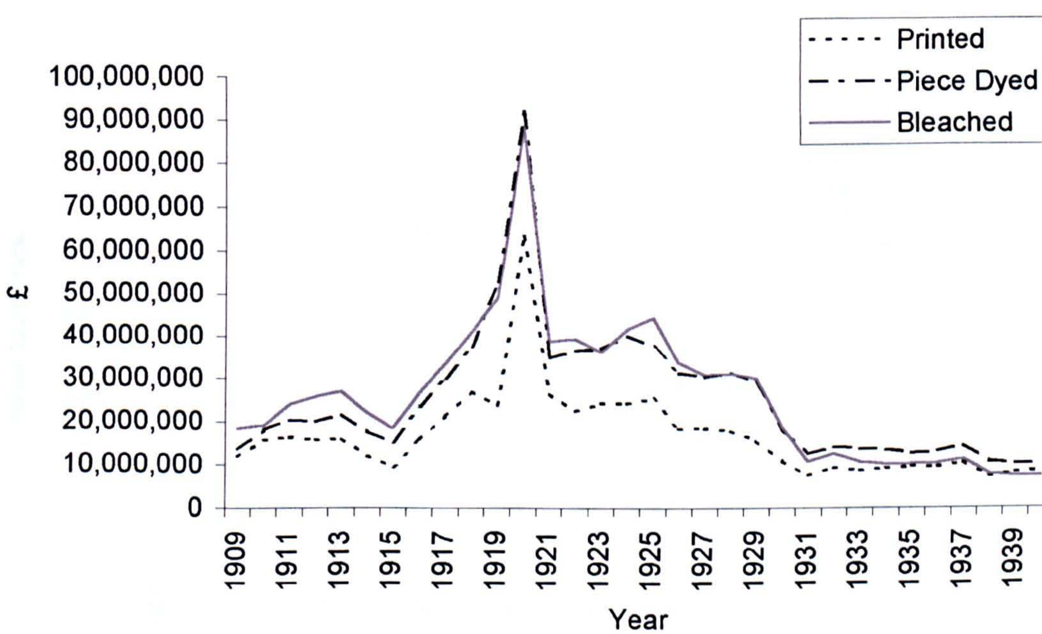

Figure 4.17 Value of British Printed Finished Cotton Piece Goods Exported, 1909-40.

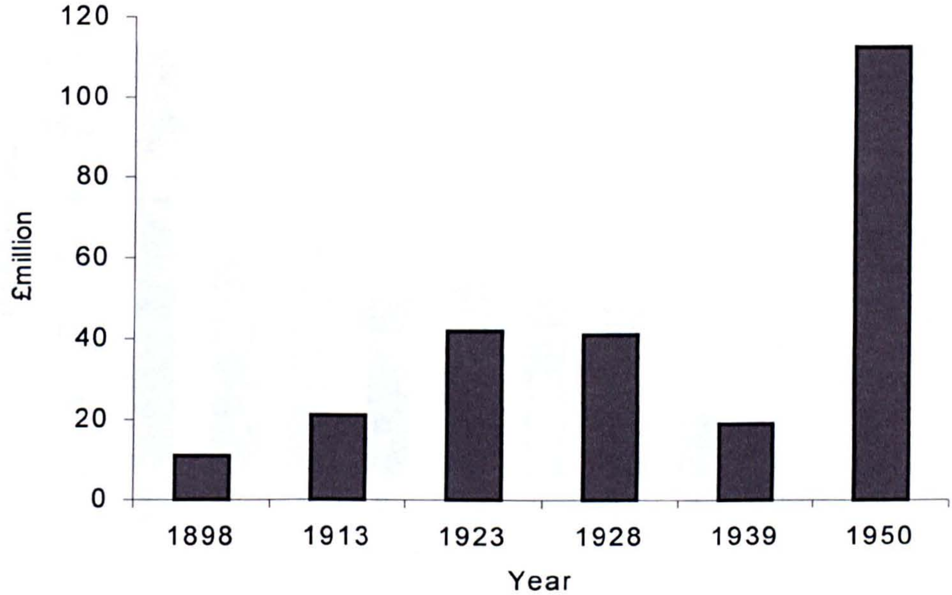

Figure 4.18 British Woven Furnishing Fabric Exported, 1898-1950.

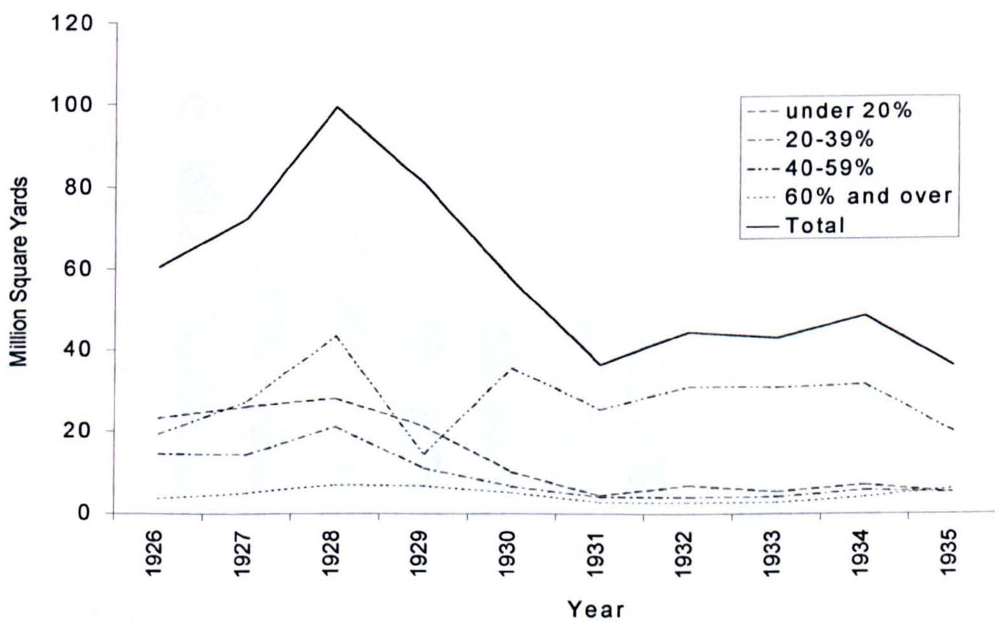

Figure 4.19 Export of Rayon/ Cotton Mix Piece Goods, 1926-35.

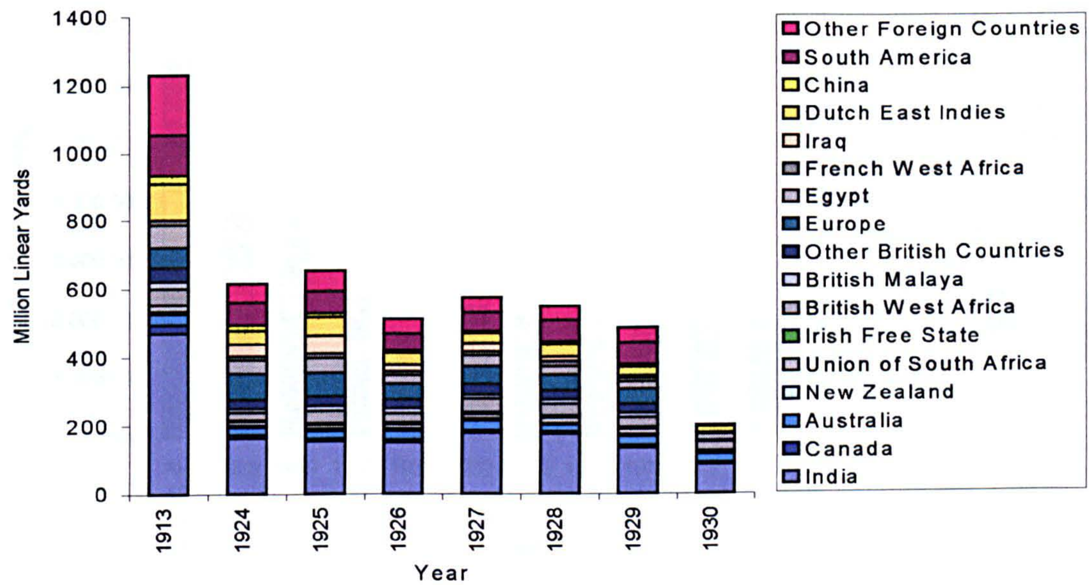

Figure 4.20 Export of British Printed Cotton Piece Goods, 1913-30.

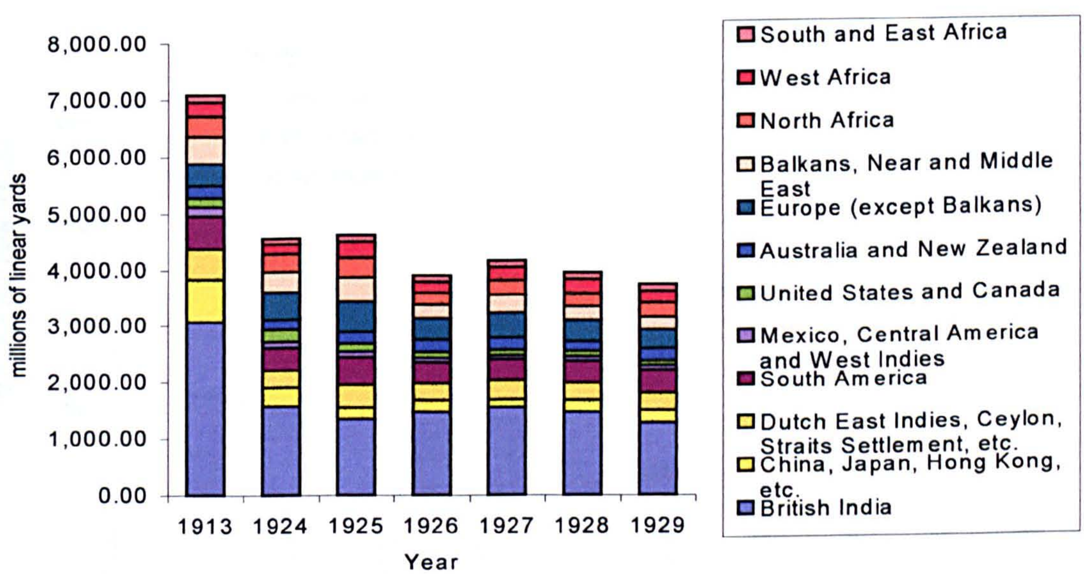

Figure 4.21 Export of British Cotton Piece Goods, 1913-29.

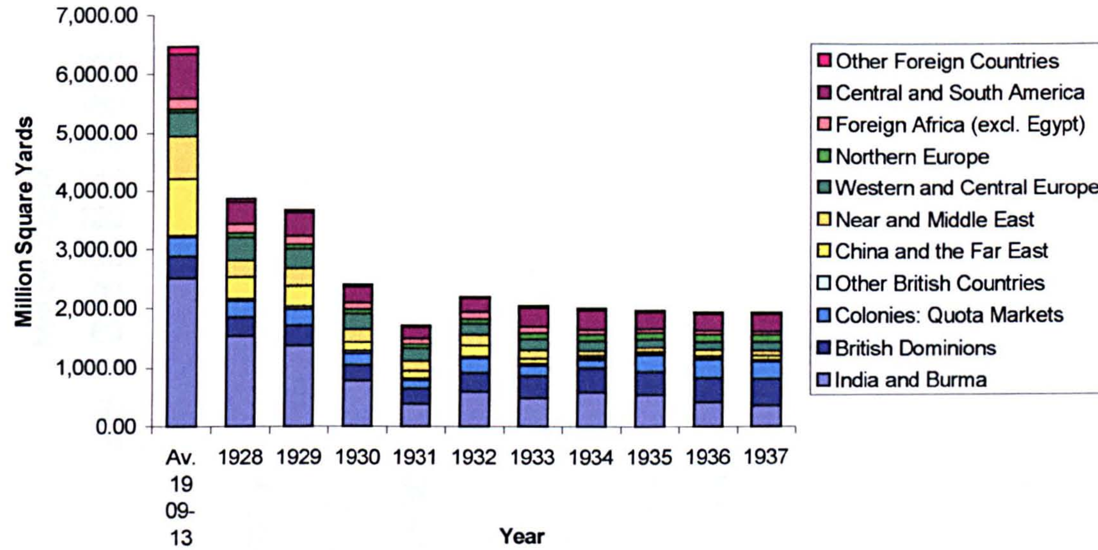

Figure 4.22 Export of British Cotton Piece Goods, 1928-37.

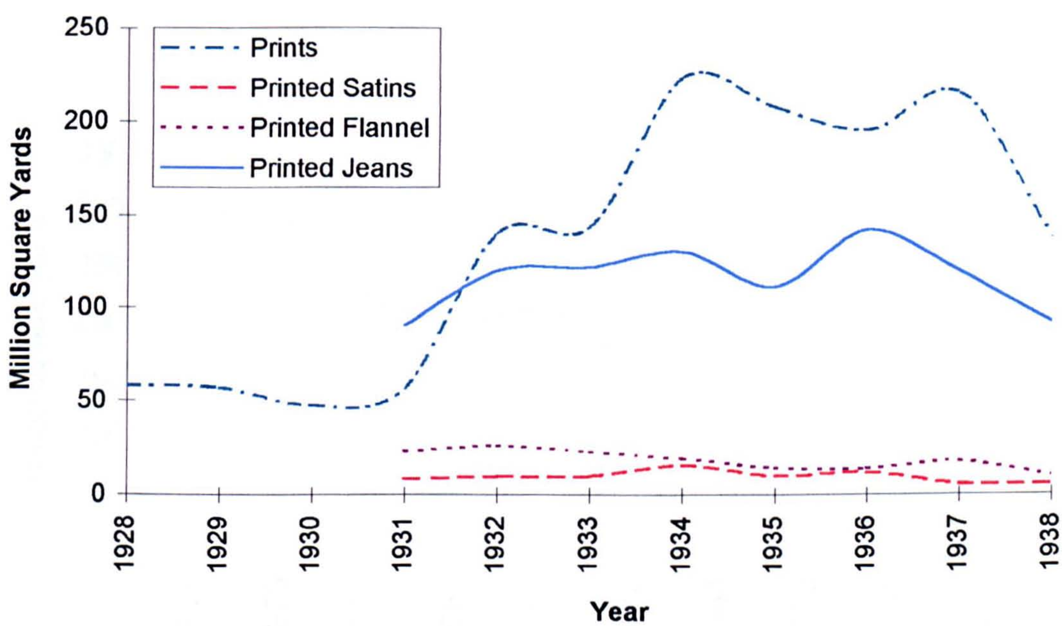

Figure 4.23 Export of Japanese Printed Cotton Piece Goods, 1928-38.
Note: Separate data for satin, jean and flannel types only given from 1931.

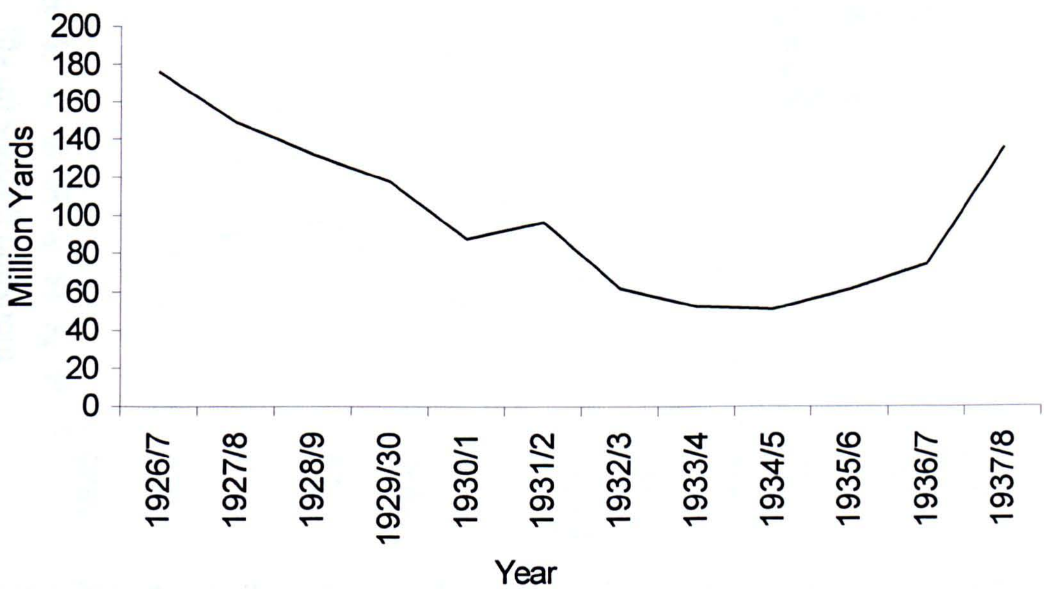

Figure 4.24 Exports of Indian Printed and Dyed Cotton Piece Goods by Sea, 1926/7-1937/8.

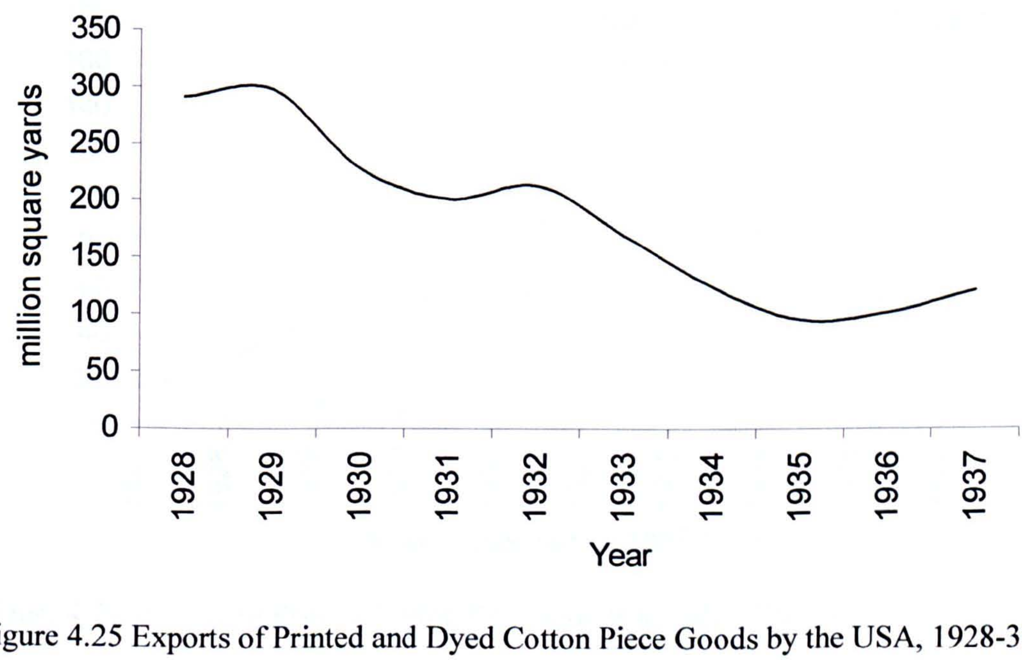

Figure 4.25 Exports of Printed and Dyed Cotton Piece Goods by the USA, 1928-37.

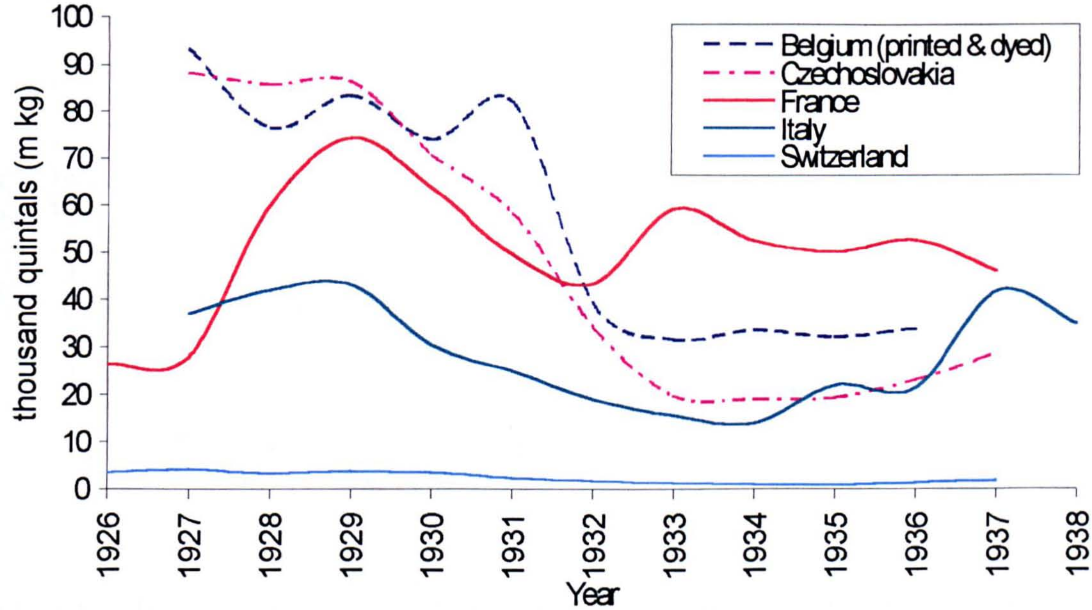

Figure 4.26 Export of Printed Cotton Piece Goods by European Competitors, 1926-38.
Note: Belgium is only given to 1936, due to a new categorisation of textiles in 1937.

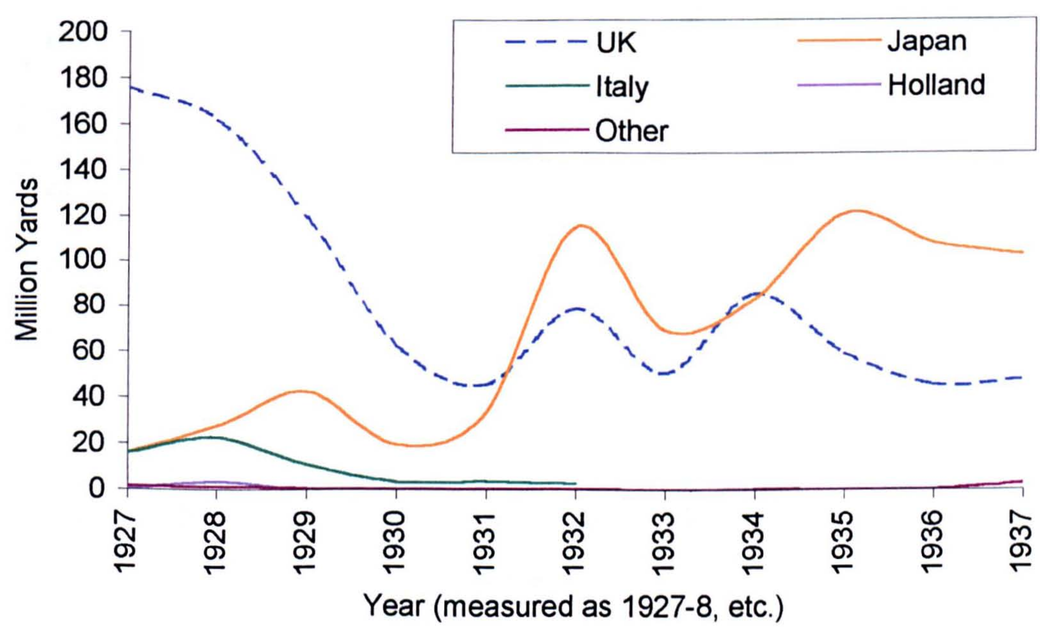

Figure 4.27 Imports of Printed Cotton Piece Goods to India, 1927-37.

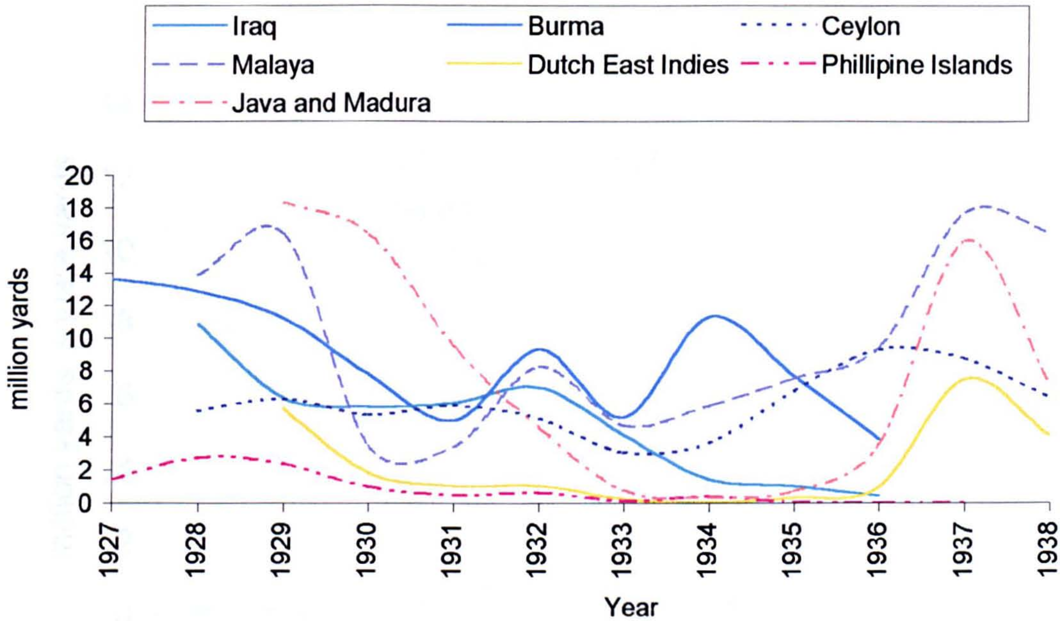

Figure 4.28 British imports to Iraq, Burma, Ceylon, Malaya, Java, the Philippines and Dutch East Indies from 1927-38.

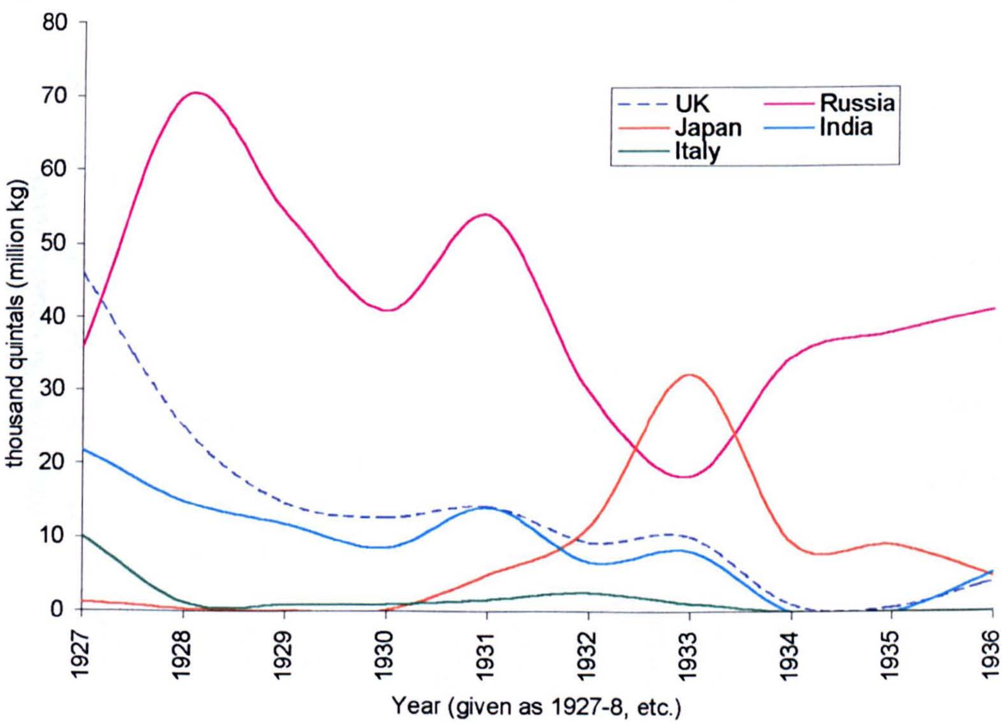

Figure 4.29 Imports of Printed Cotton Piece Goods to Persia (Iran), 1927-36.

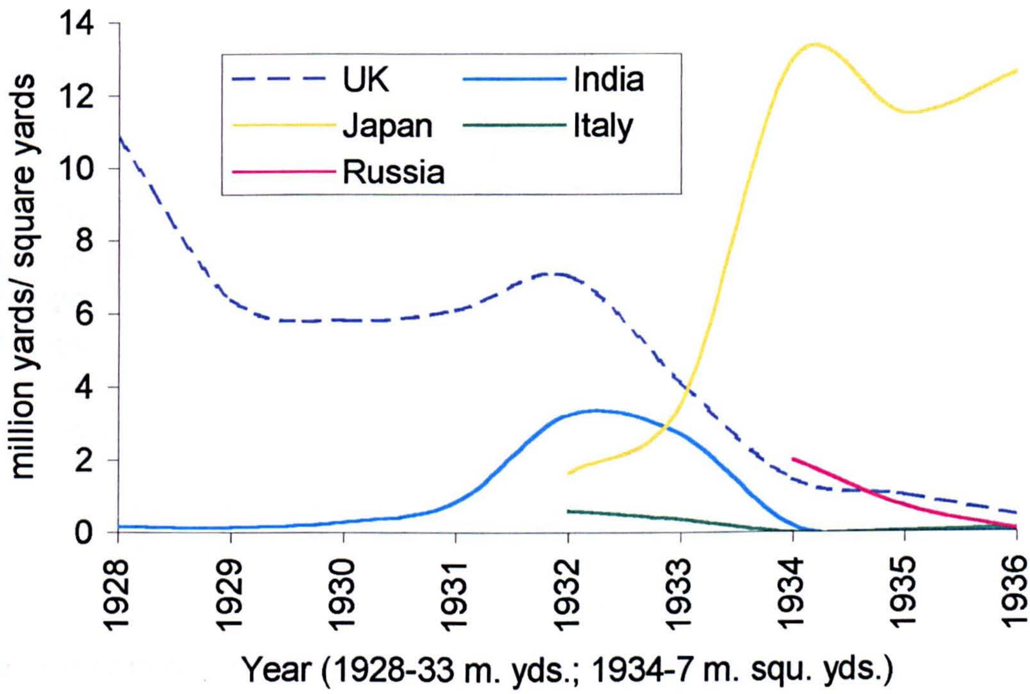

Figure 4.30 Imports of Printed Cotton Piece Goods to Iraq, 1928-36.

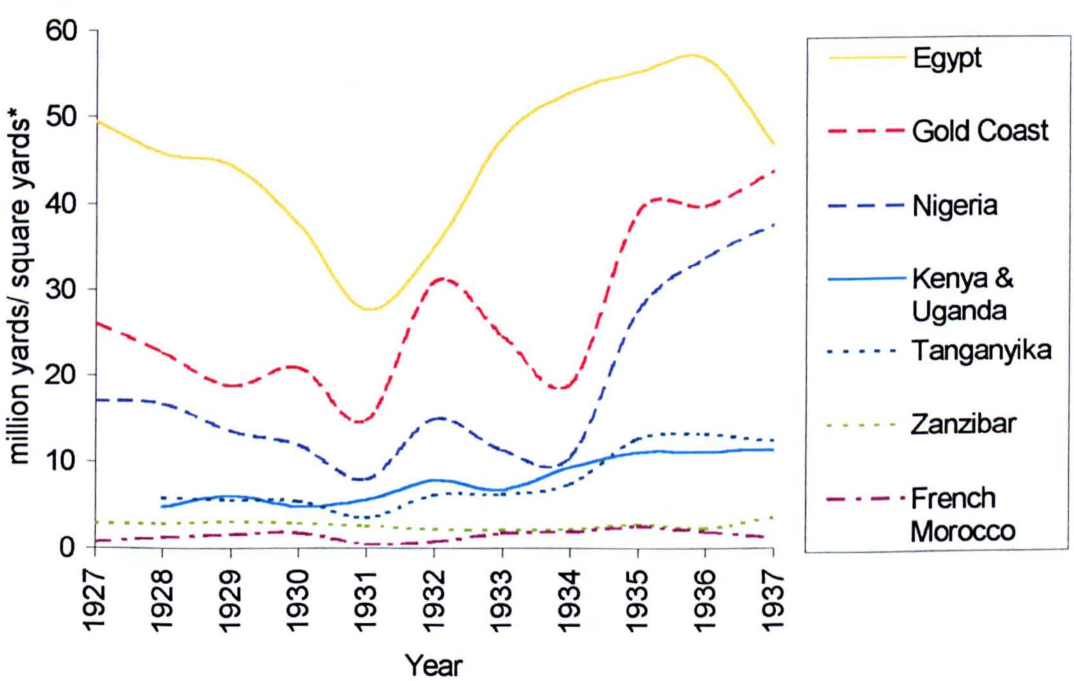

Figure 4.31 Total Printed Cotton Piece Goods Exported to Africa, 1927-37.
*Kenya, Uganda and Zanzibar used square yards from 1936, Tanganyika from 1935; Gold Coast and Nigeria used square yards throughout these years. Data from JCCTO, Cotton Trade Statistics, 1939.

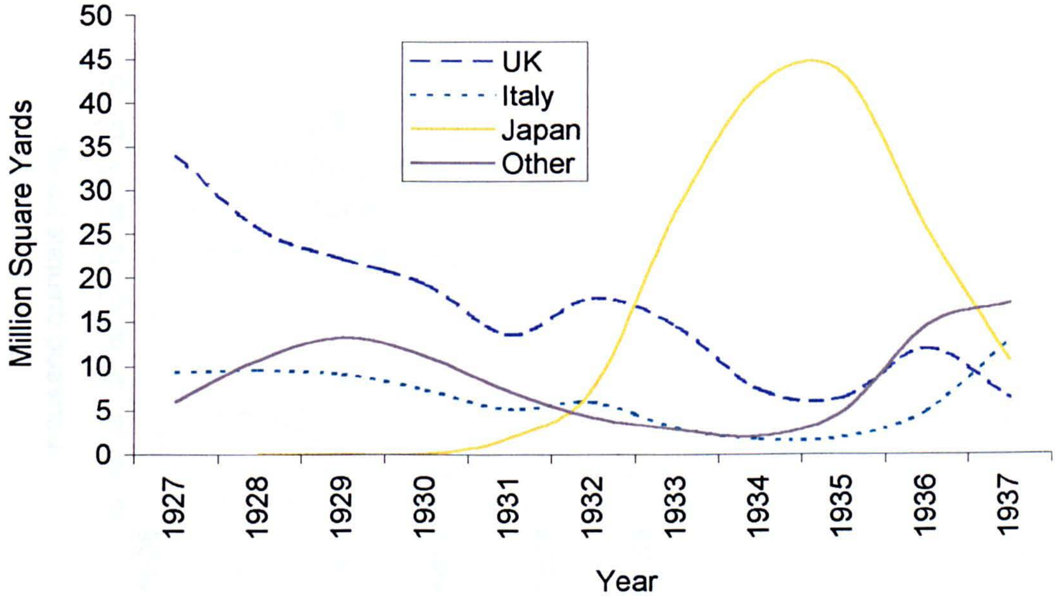

Figure 4.32 Import of Printed Cotton Piece Goods to Egypt, 1927-37.

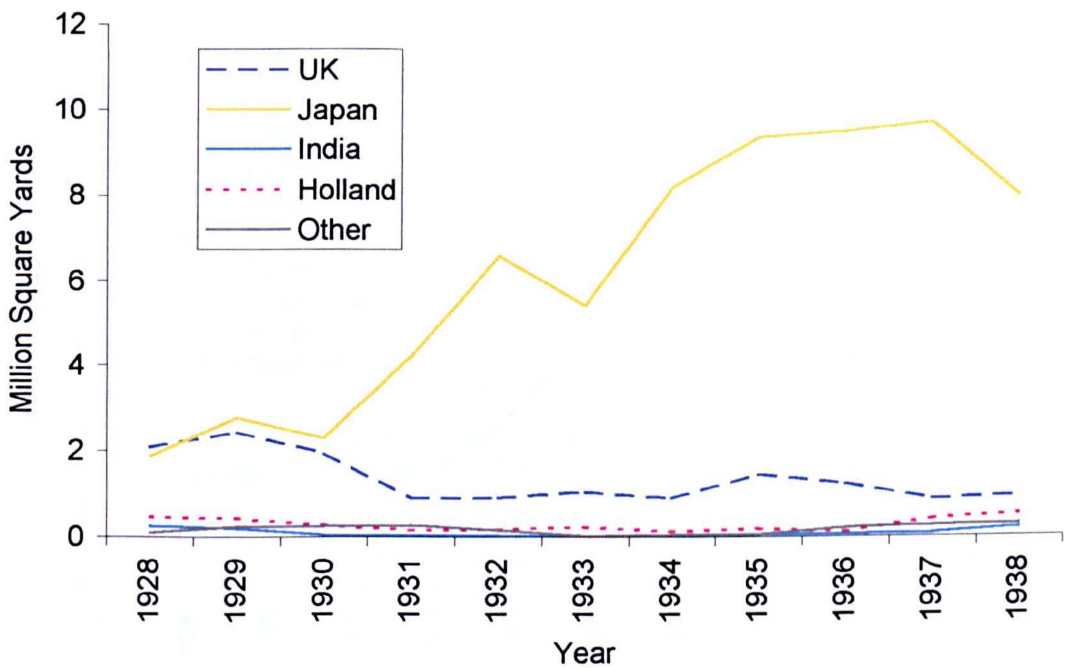

Figure 4.33 Import of Printed Cotton Piece Goods to Kenya and Uganda, 1928-38.

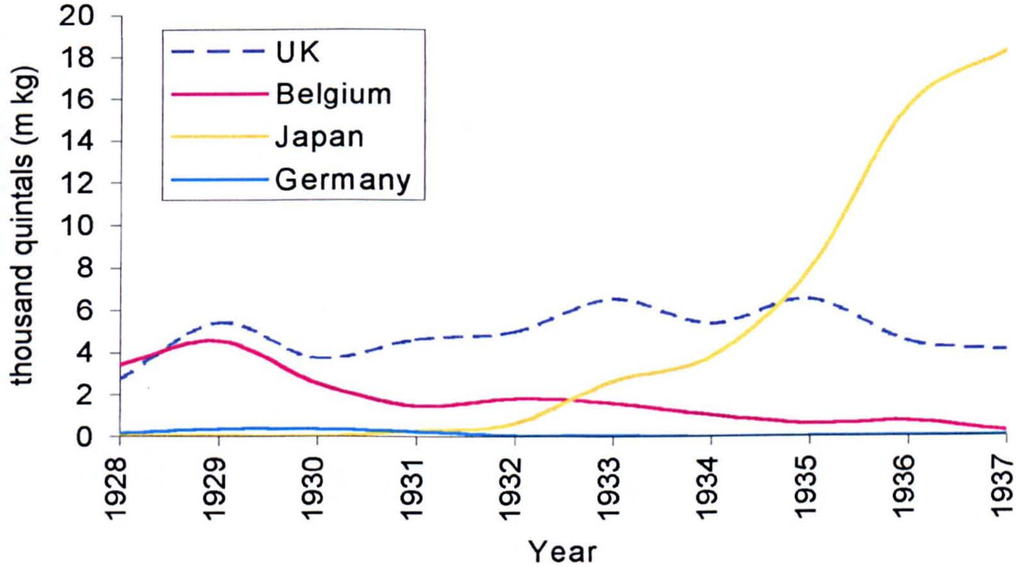

Figure 4.34 Import of Printed Cotton Piece Goods to the Belgian Congo, 1928-37.

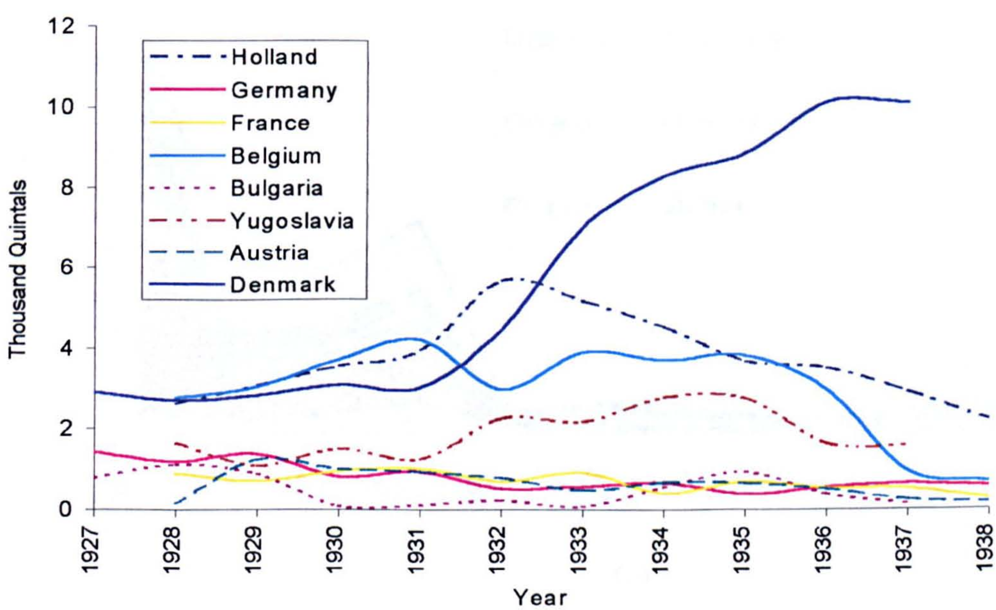

Figure 4.35 Import of UK Printed Cotton Piece Goods to Europe, 1927-38.

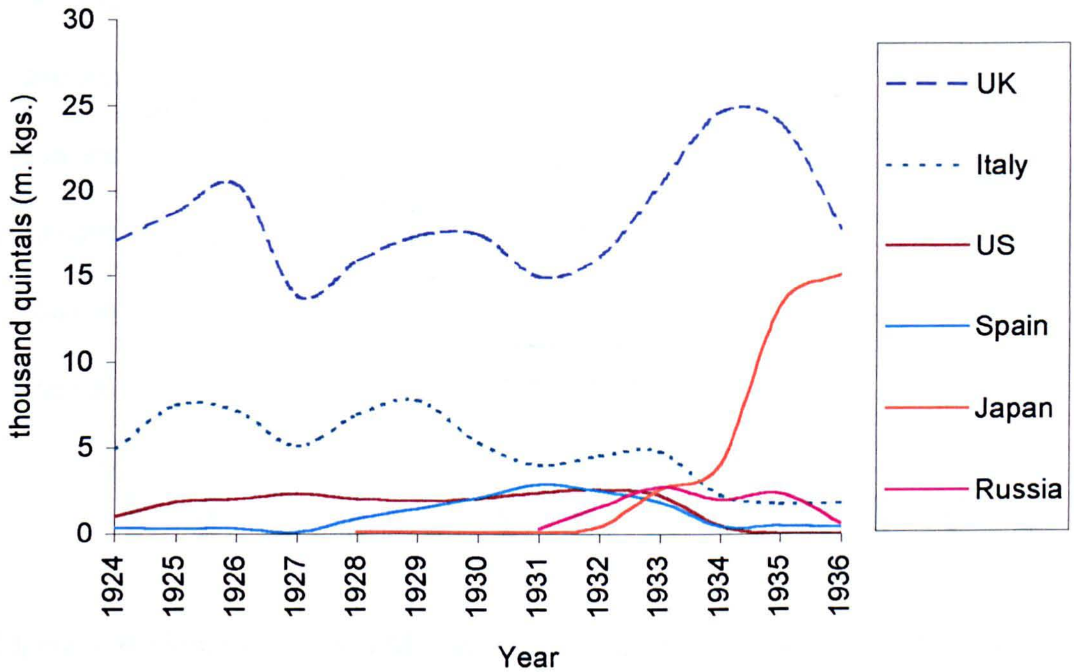

Figure 4.36 Imports of Printed Cotton Piece Goods to Argentina, 1924-36.

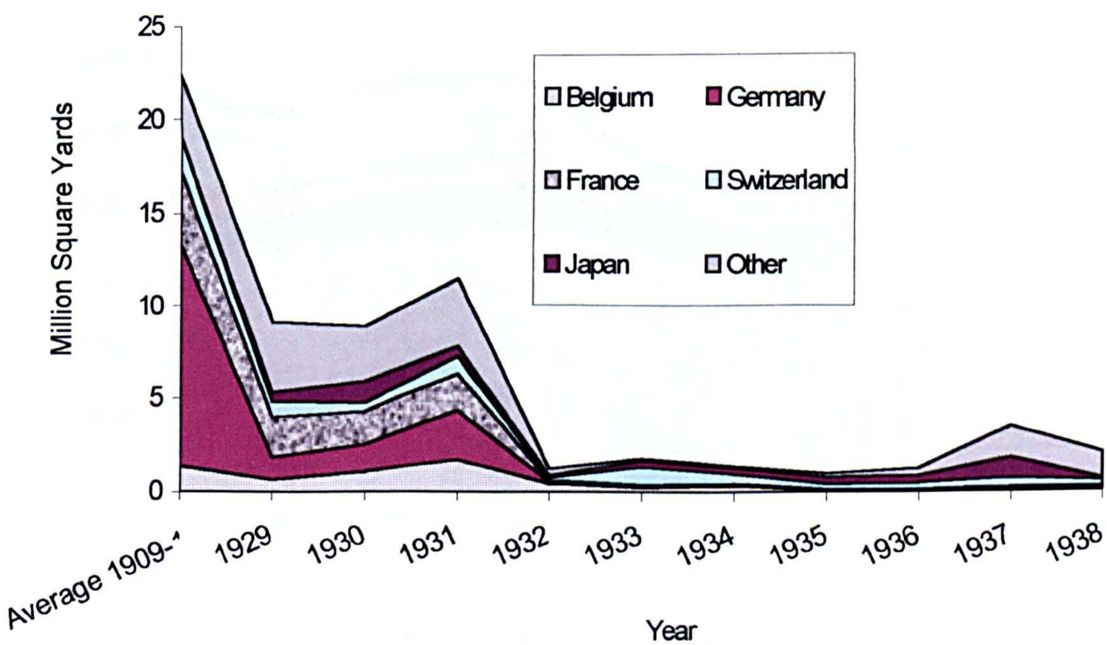

Figure 4.37 Imports of Printed Cotton Piece Goods to the UK.

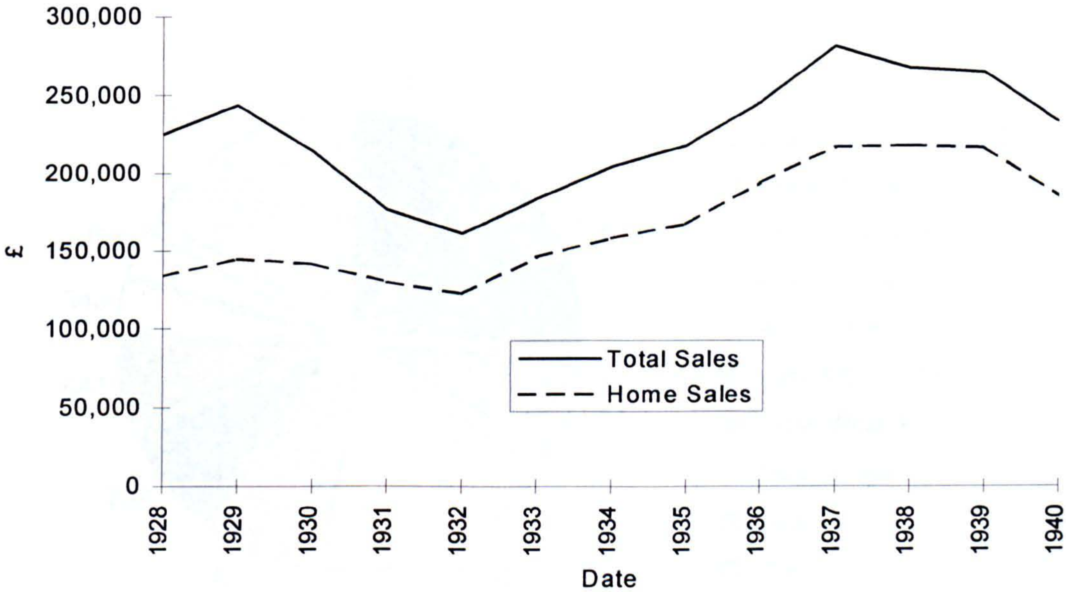

Figure 4.38 Home and Export Market Sales of Turnbull & Stockdale Ltd., 1928-40.

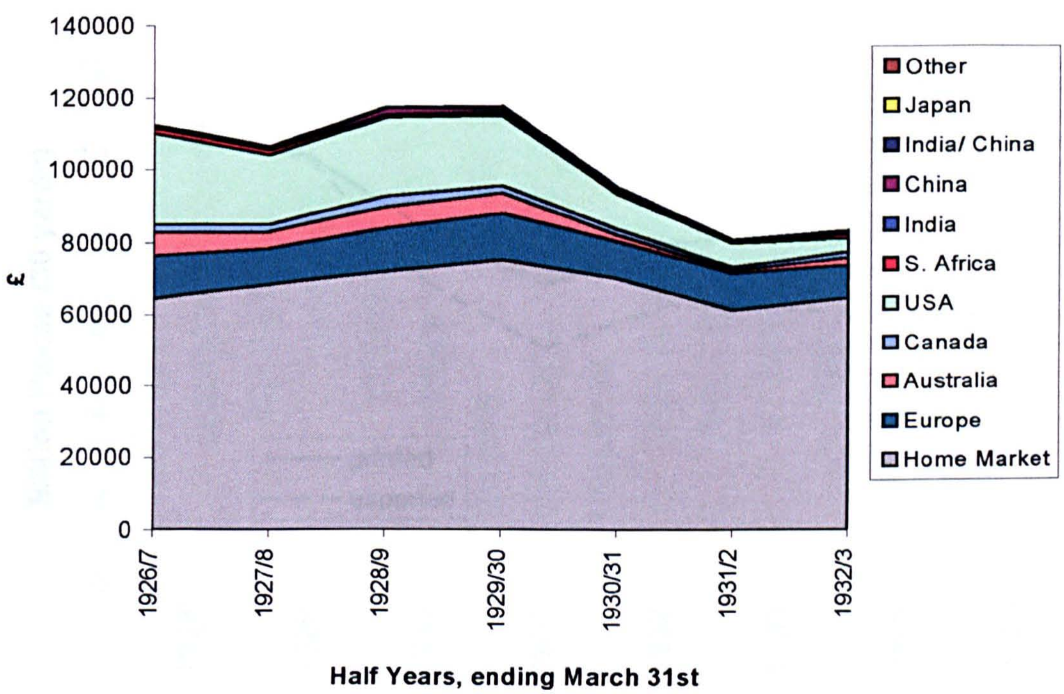

Figure 4.39 Market Destinations of Turnbull & Stockdale Ltd., 1926/7-1932/3.

Note: Other covers W. Indies, S. America, N. Africa and E. Indies. Europe covers Germany, France, Belgium, Holland, Switzerland, Austria, Hungary, Czechoslovakia, Roumania, Finland, Denmark, Sweden, Norway, Italy, Spain and Greece.

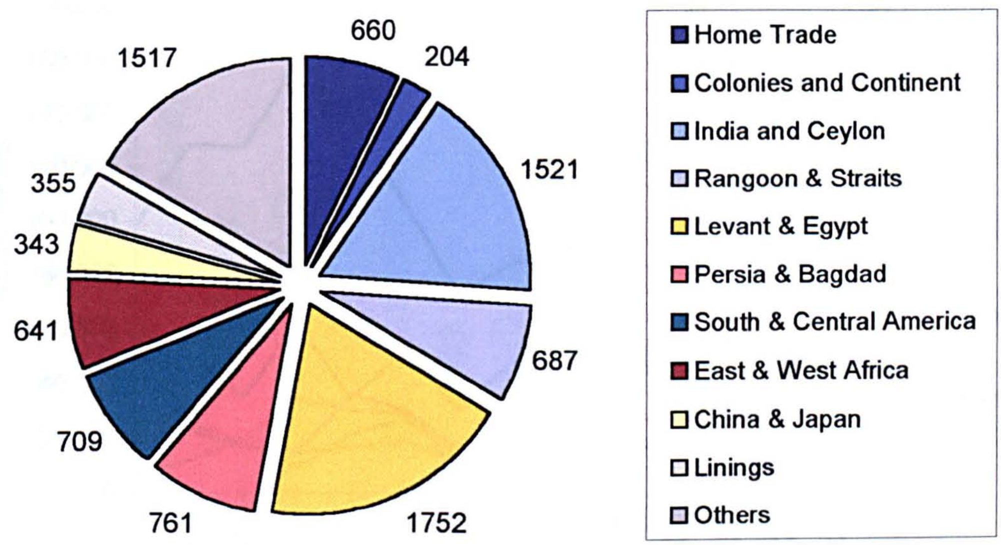

Figure 4.40 CPA market destinations, January-June 1920.

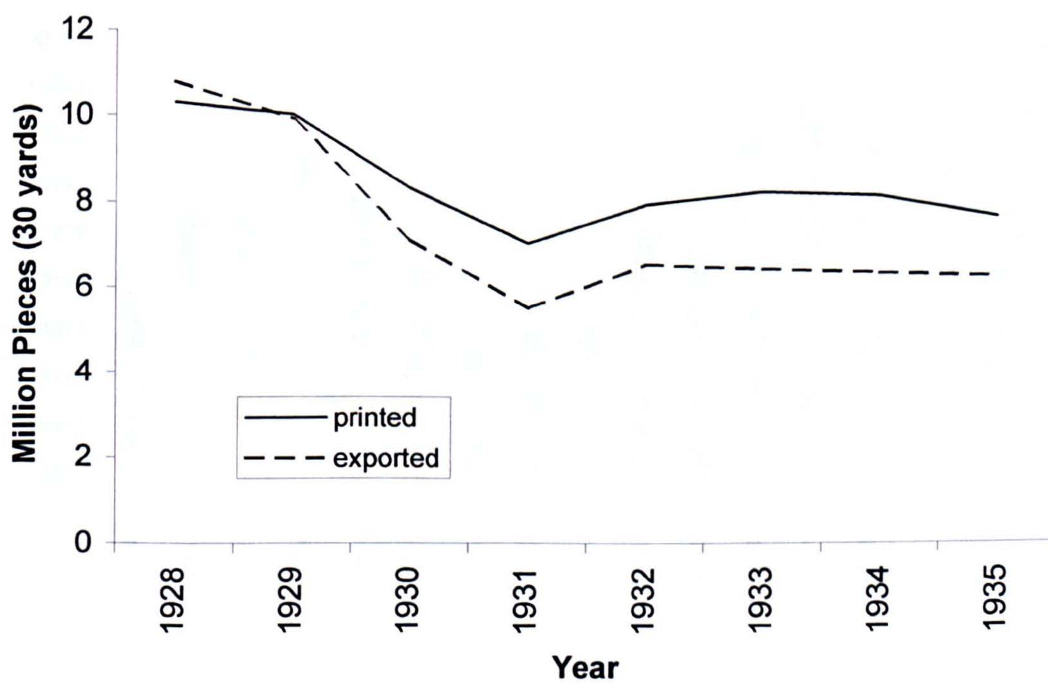

Figure 4.41 CPA: Exported against Total Printed Piece Goods, 1928-35.

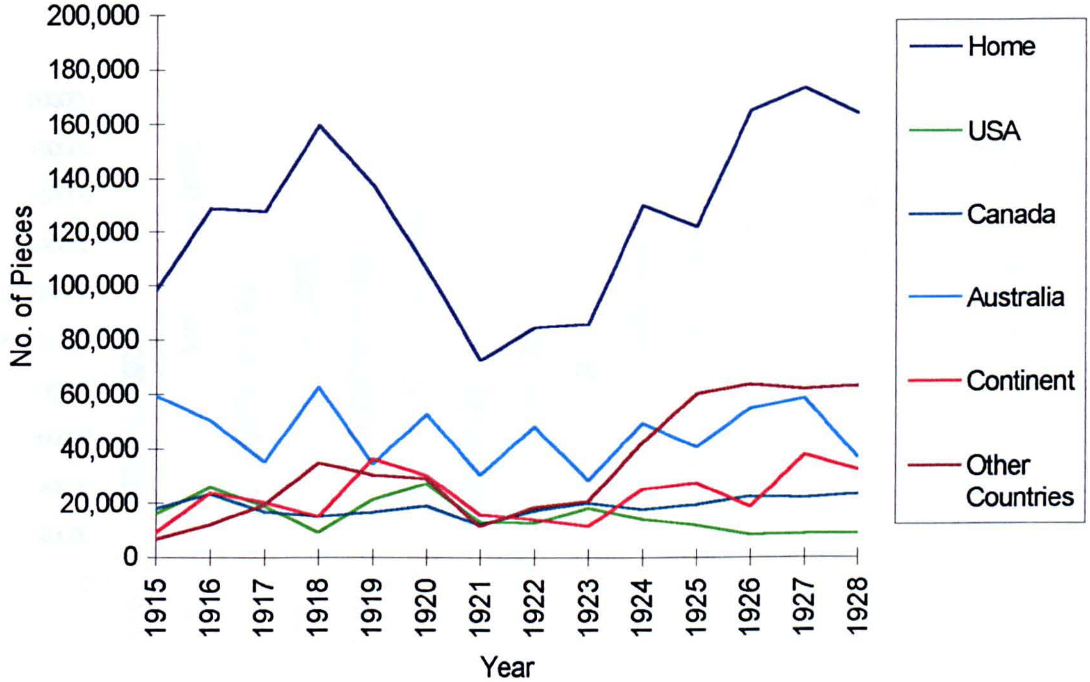

Figure 4.42 Ferguson Bros. Ltd. Market Destination of Pieces Sold, 1915-28.

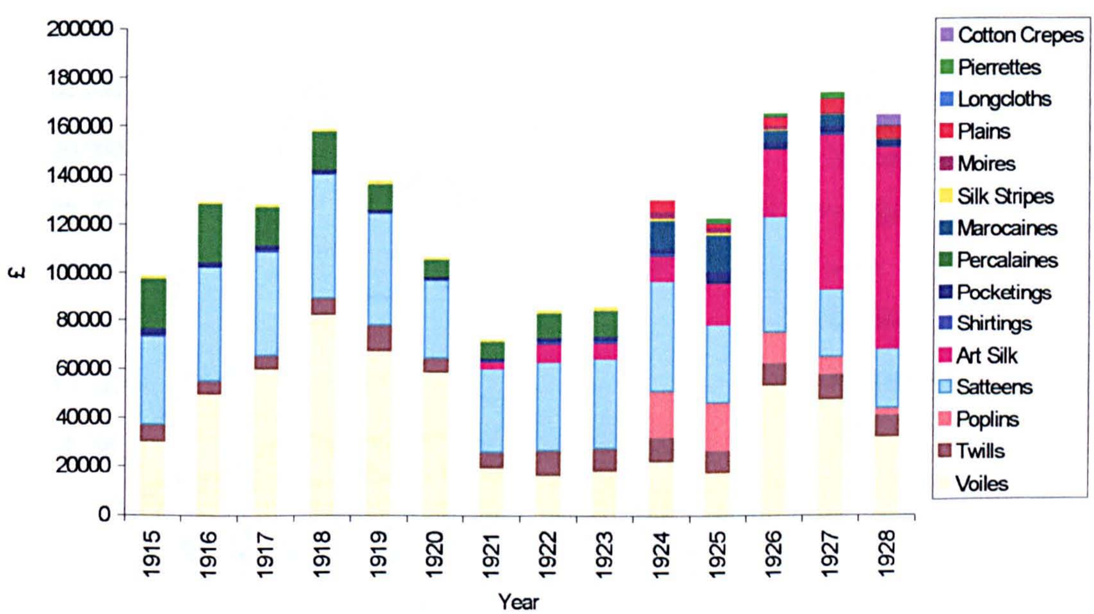

Figure 4.43 Ferguson Bros. Ltd. Sales of Various Fabrics in the Home Market, 1915-28.

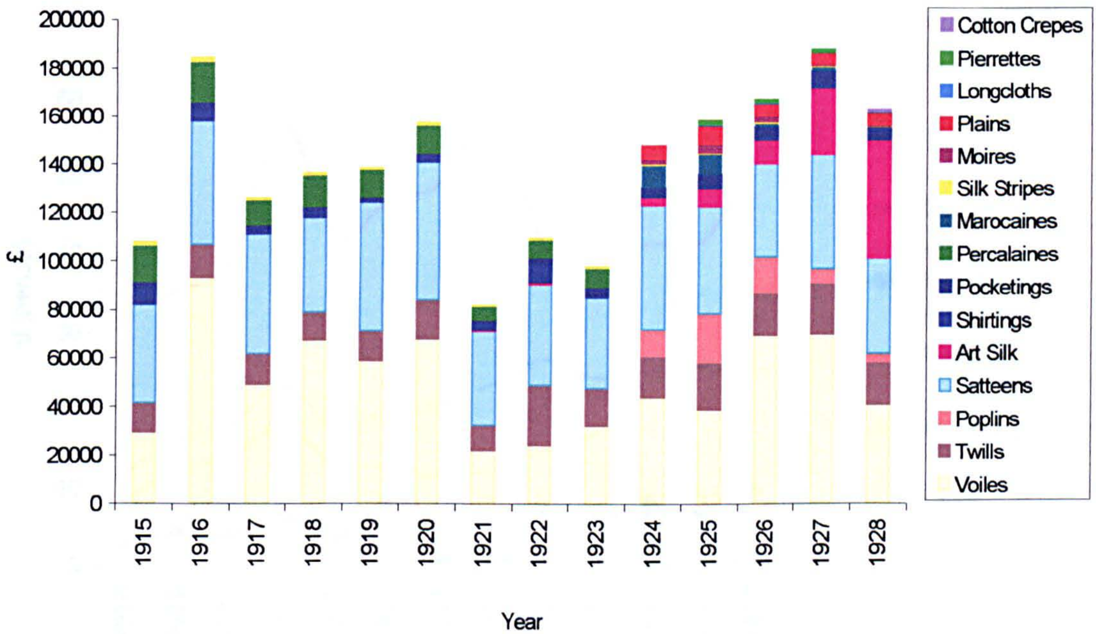

Figure 4.44 Ferguson Bros. Ltd. Sales of Various Fabrics in the Export Markets, 1915-28.

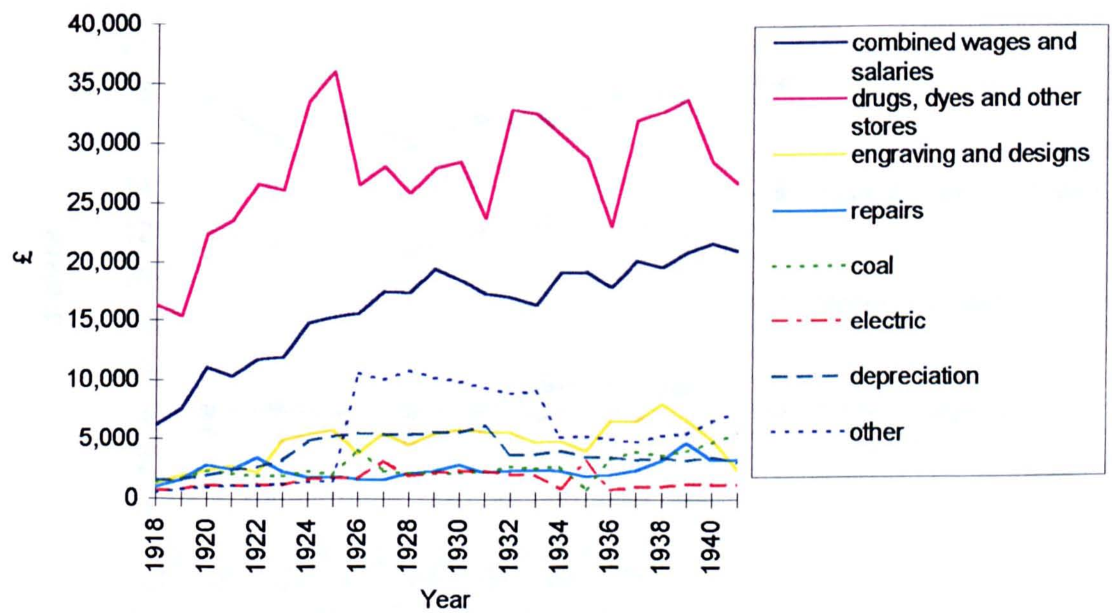

Figure 4.45 Ferguson Bros. Ltd. Print Department Costs, 1918-41.

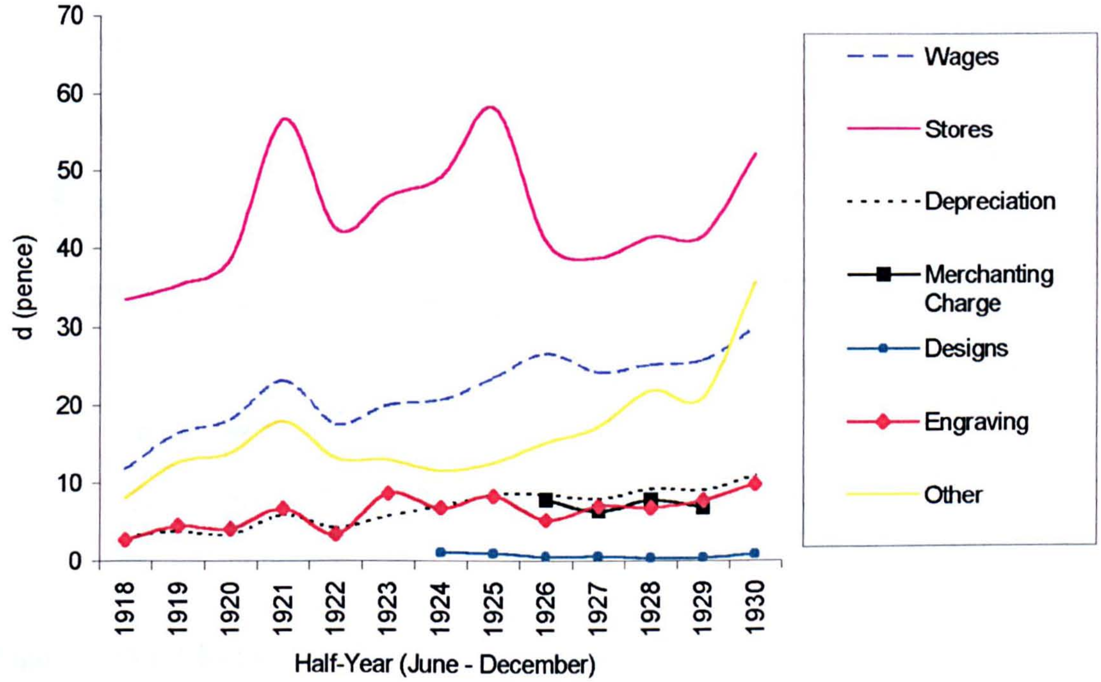

Figure 4.46 Ferguson Bros. Ltd. Cost Per Piece Analysis, 1918-30.

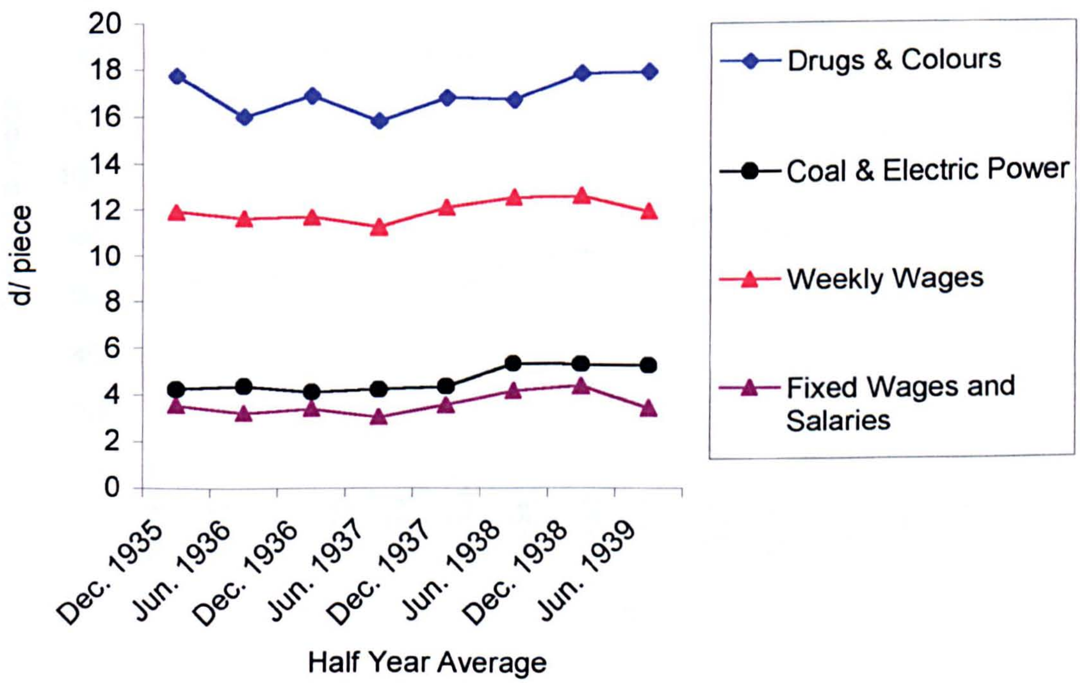

Figure 4.47 CPA Works Costs Per Piece, 1935-9.

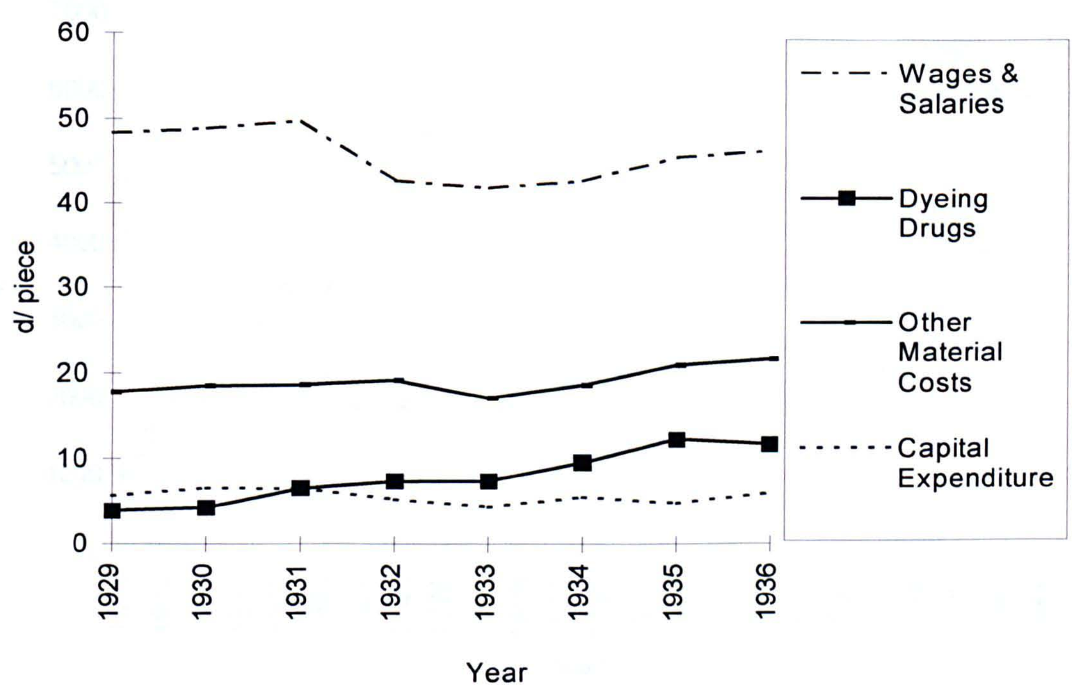

Figure 4.48 J. Chadwick & Co. Ltd. Production Costs, 1929-36.

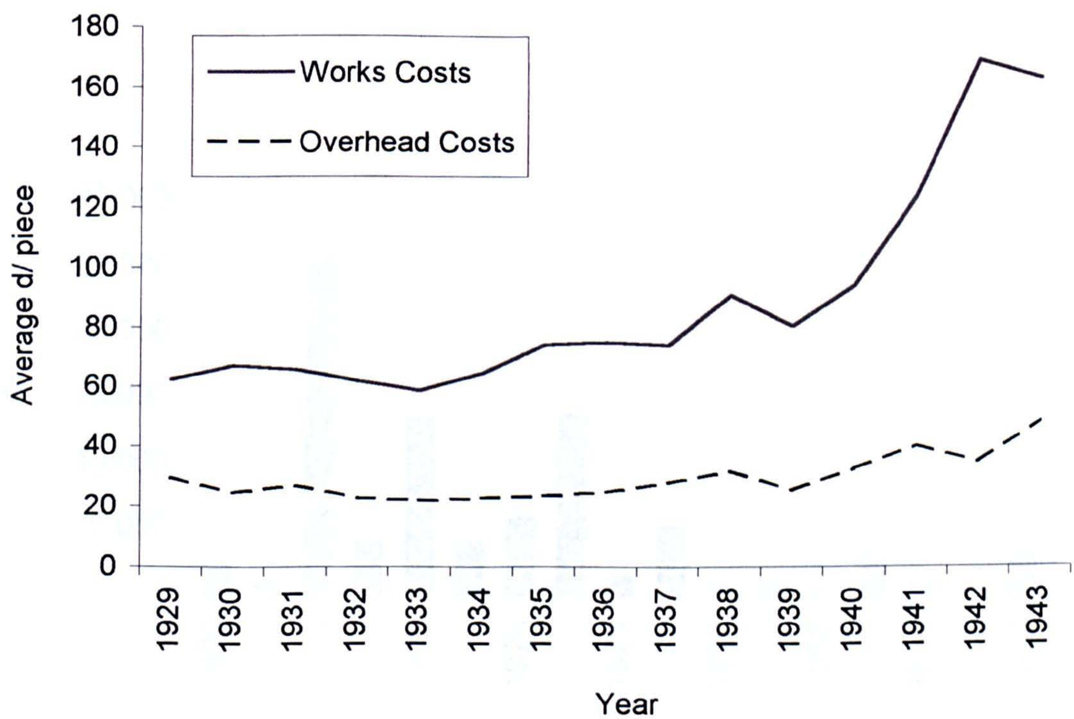

Figure 4.49 J. Chadwick & Co. Ltd. Works Costs and Overhead Costs, 1929-43.

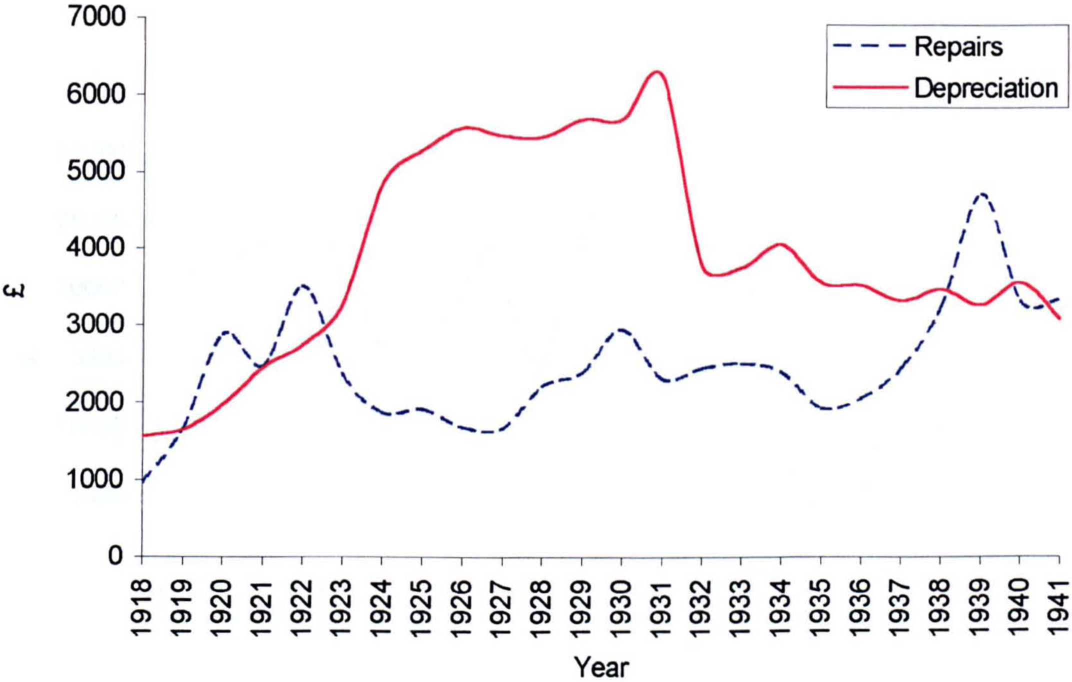

Figure 4.50 Ferguson Bros. Ltd. Overhead Costs, 1918-4.

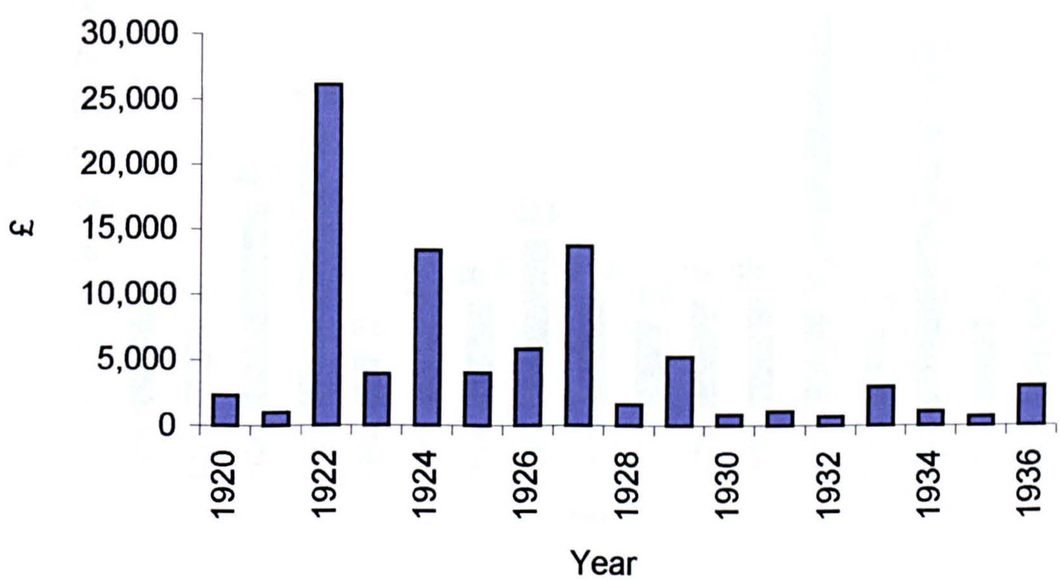

Figure 4.51 Ferguson Bros. Ltd. Investment, 1920-36.

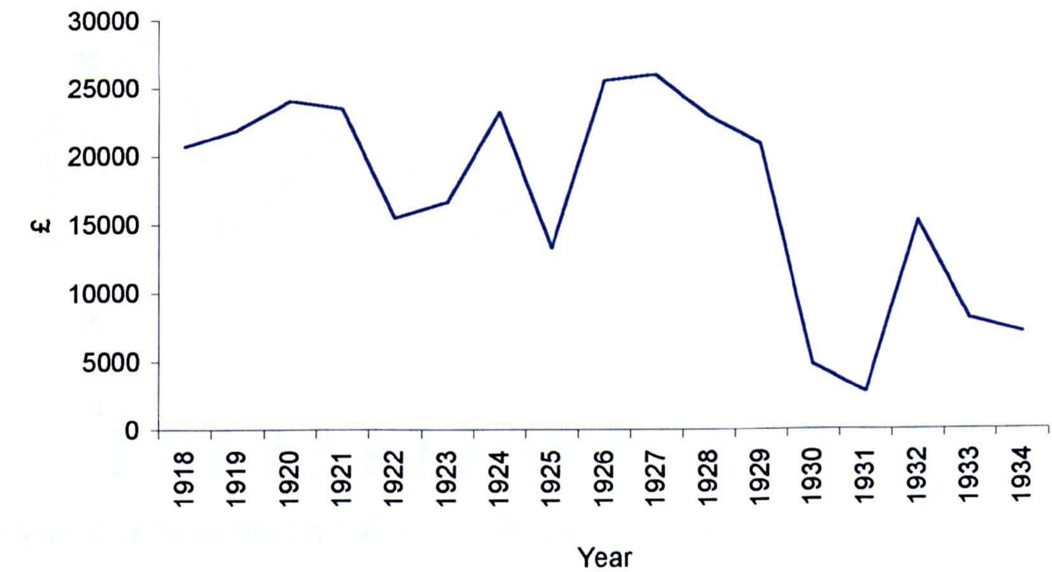

Figure 4.52 Ferguson Bros. Ltd. Taxes, 1918-34.

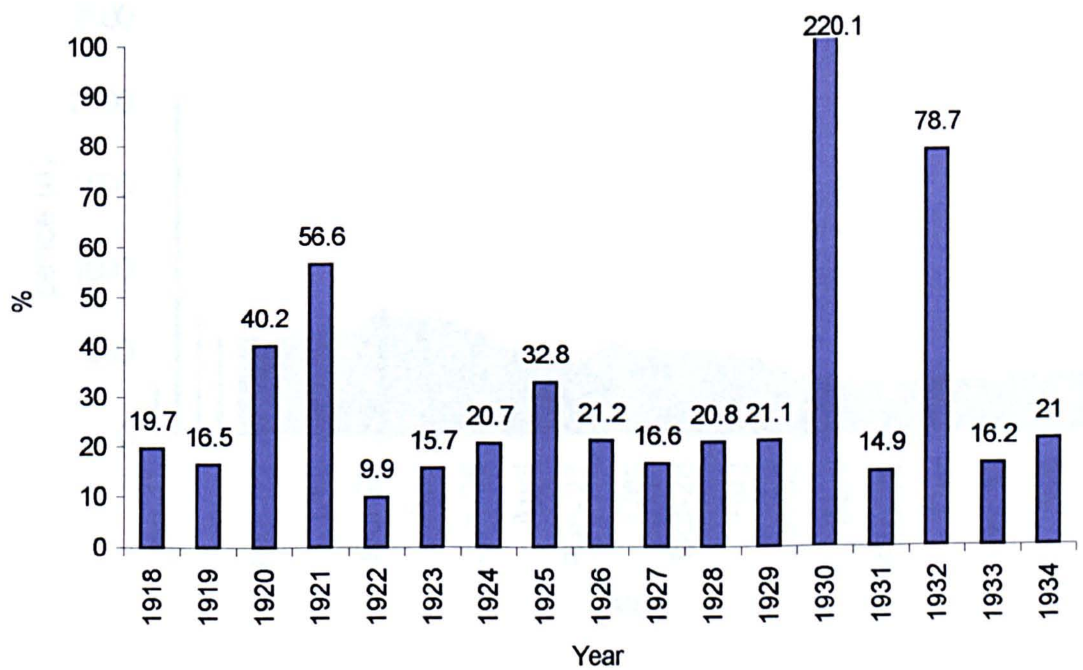

Figure 4.53 Proportion of Profits taken by Taxes: Ferguson Bros. Ltd., 1918-34.

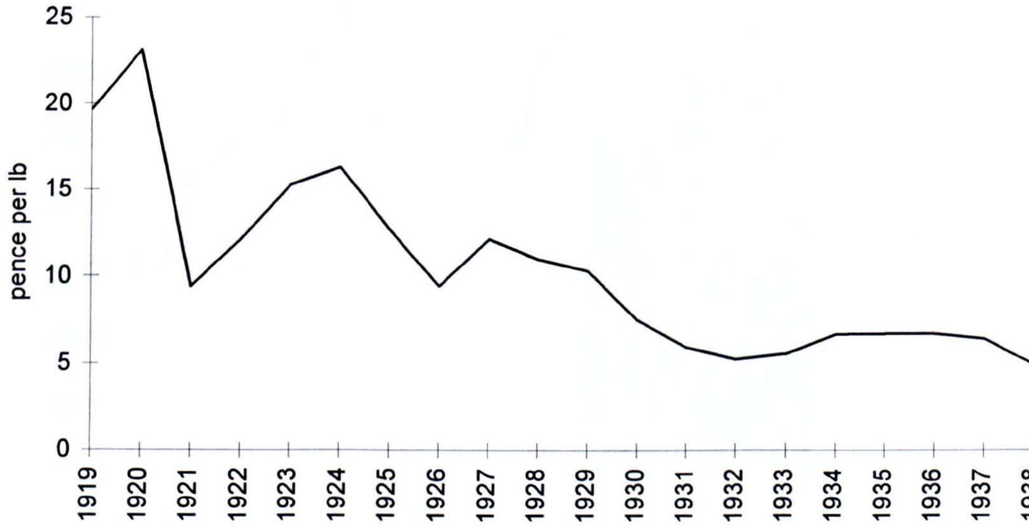

Figure 4.54 Stock Market Valuation of Raw Cotton, 1919-38.

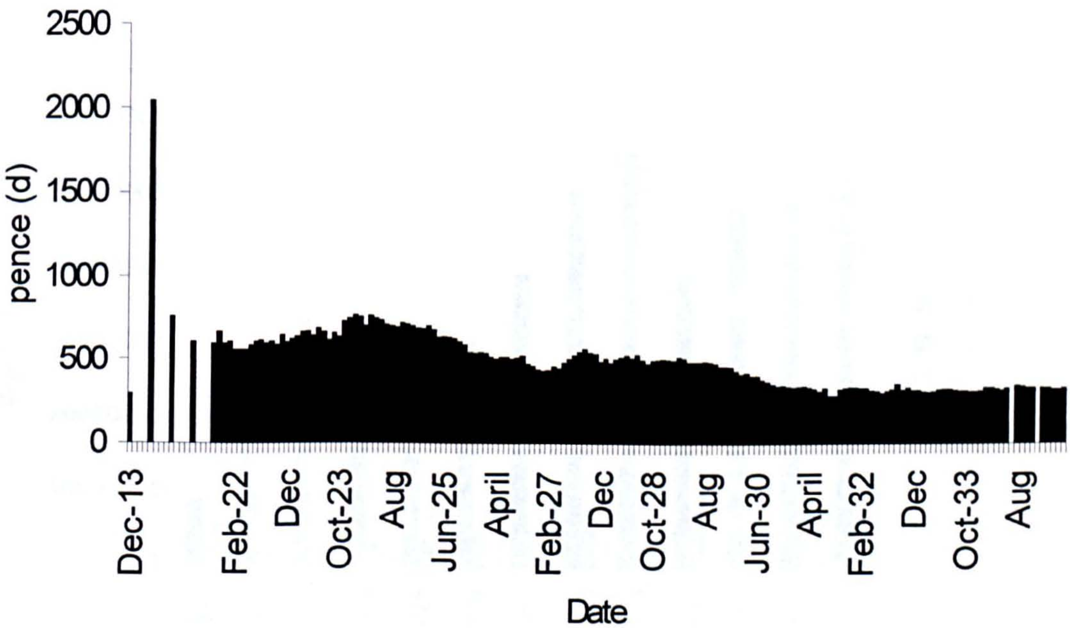

Figure 4.55 Price of Standard C55 Cotton Cloth, 1913-35.

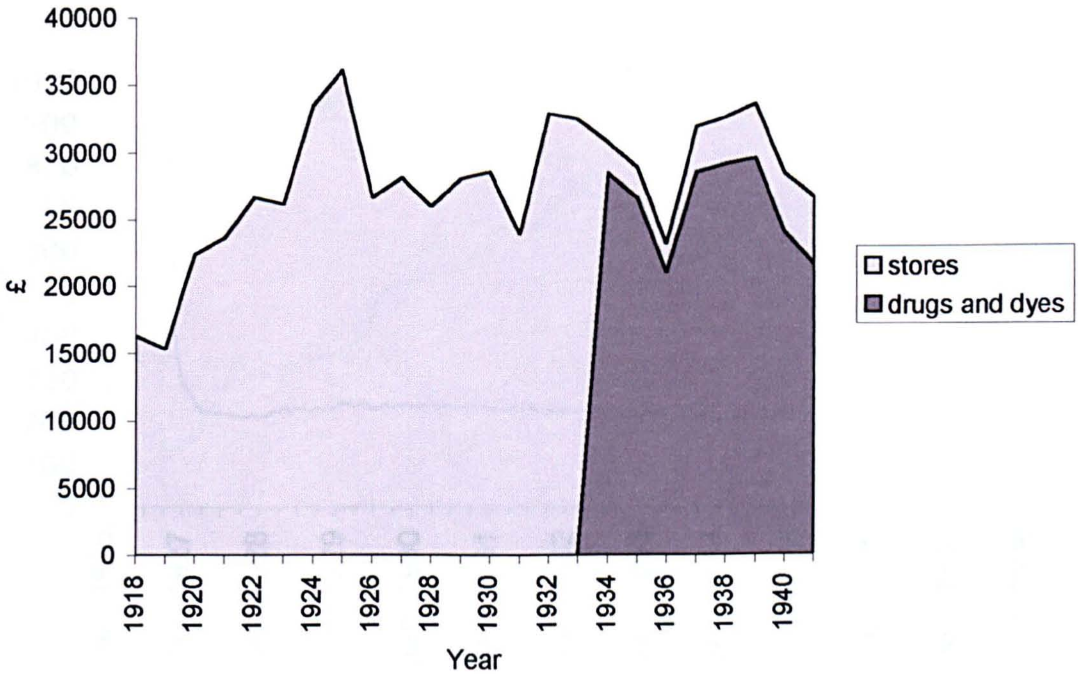

Figure 4.56 Dyestuff Costs at Ferguson Bros. Ltd., 1918-41.

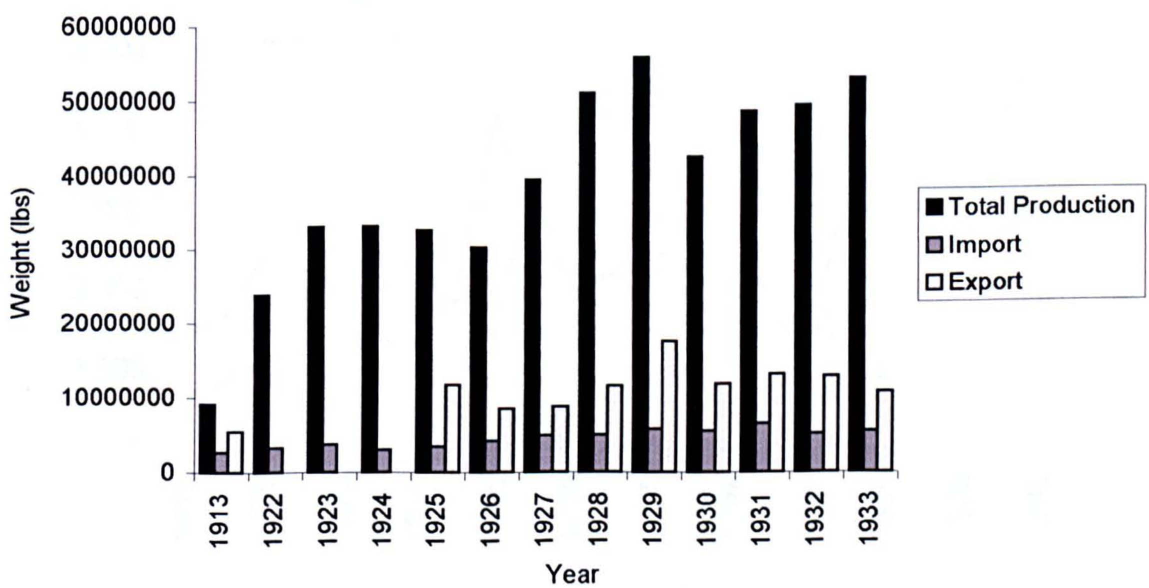

Figure 4.57 The Synthetic Dye Industry in the UK, 1913-33.

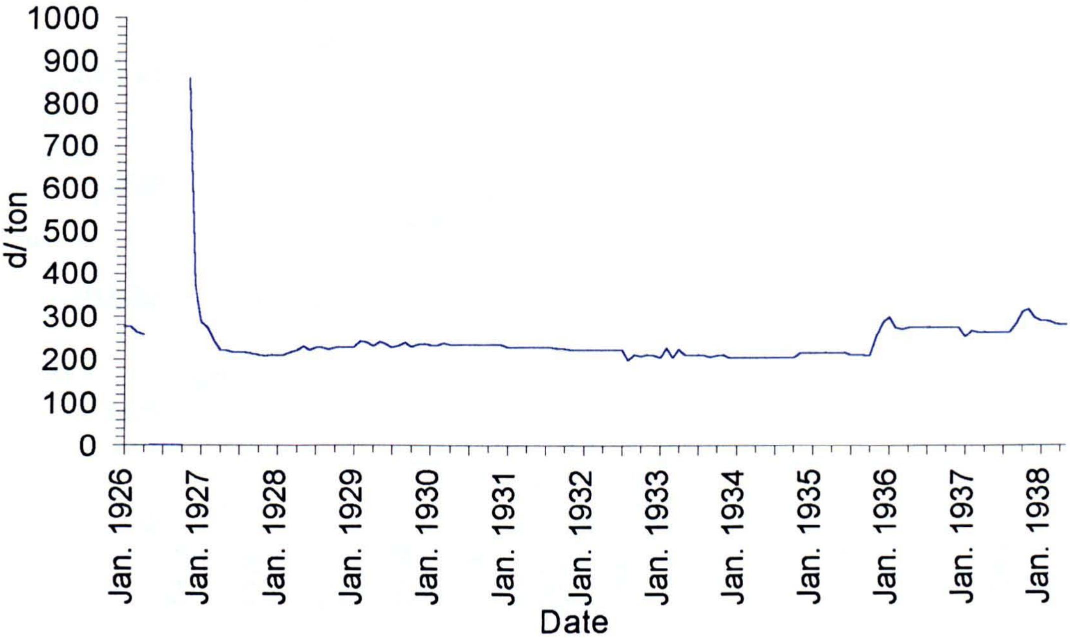

Figure 4.58 Price of Coal, minuted by the UTR, 1926-38.

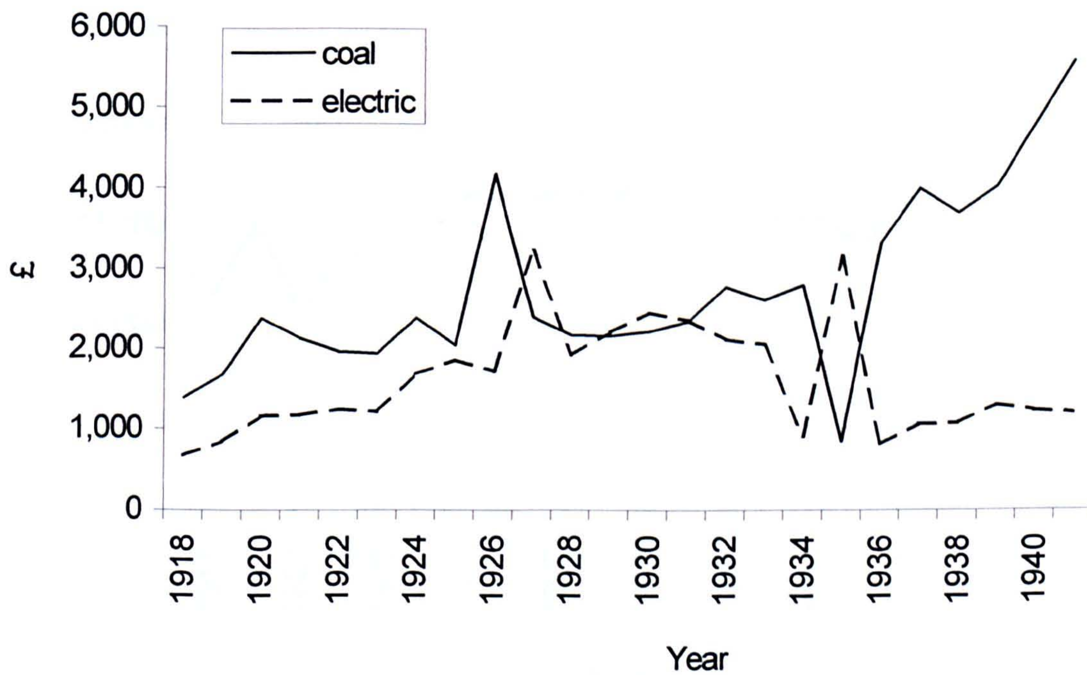

Figure 4.59 Ferguson Bros. Ltd. Energy Costs, 1918-40

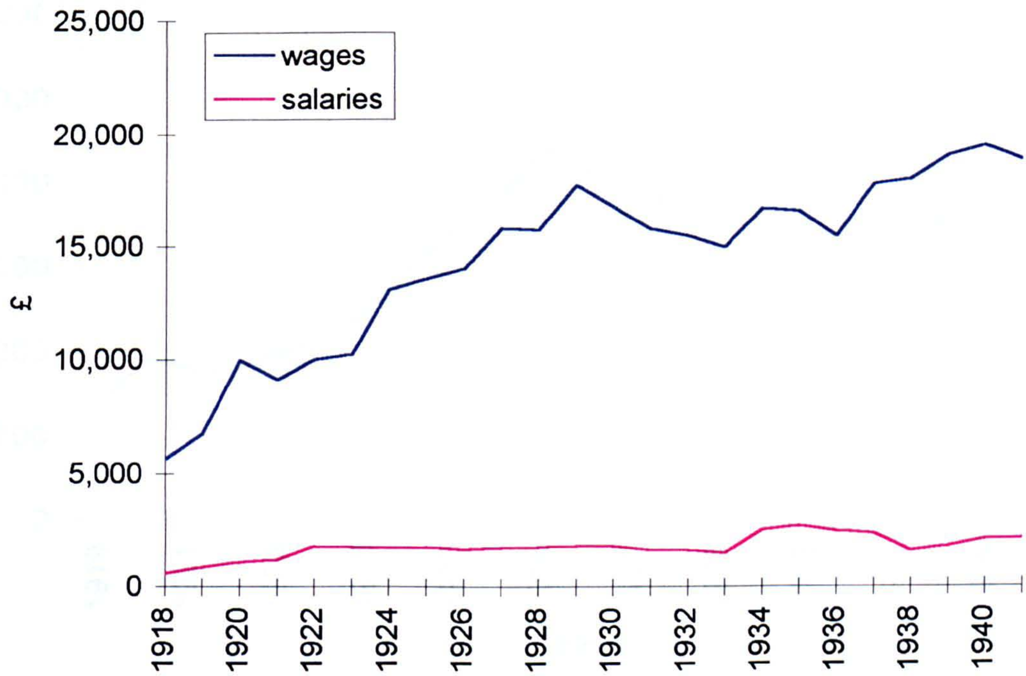

Figure 4.60 Ferguson Bros. Ltd. Wage and Salary Costs, 1918-41.

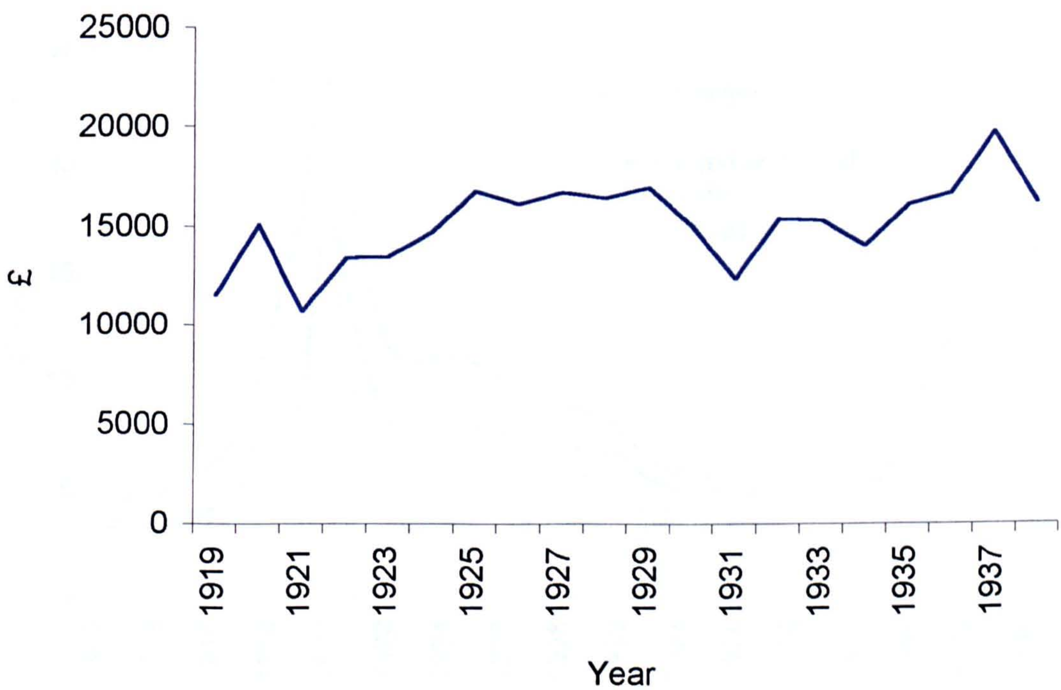

Figure 4.61 Turnbull & Stockdale Ltd. Wages Cost, 1919-38.

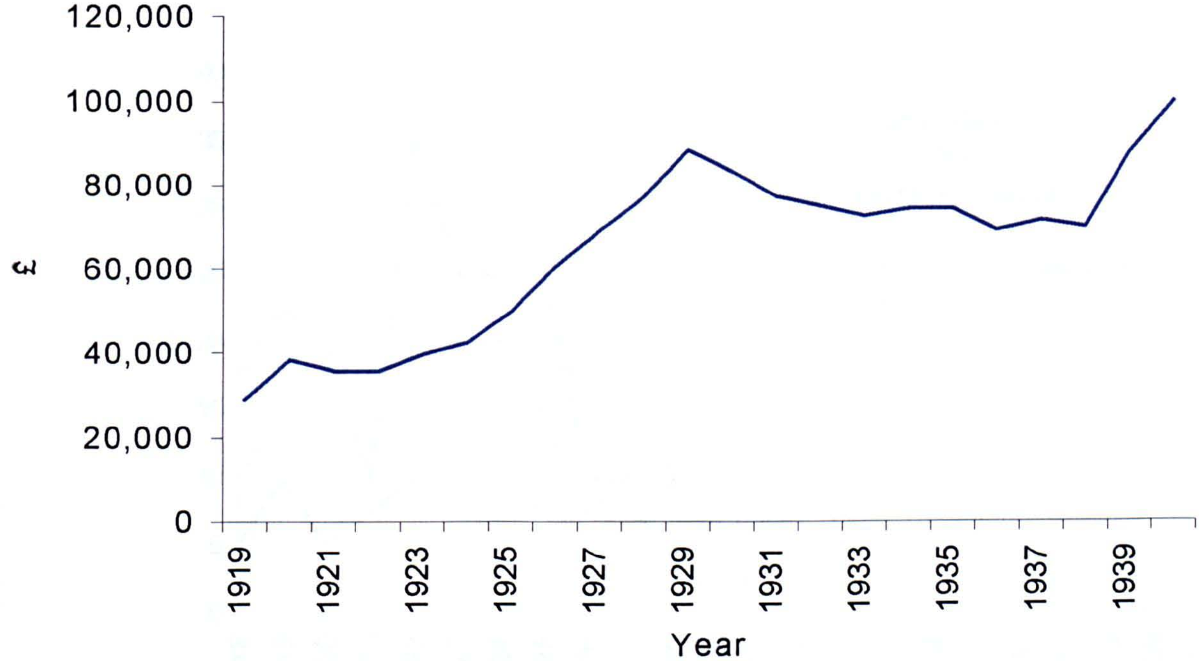

Figure 4.62 J. Chadwick & Co. Ltd. Wage & Salary Costs, 1919-40.

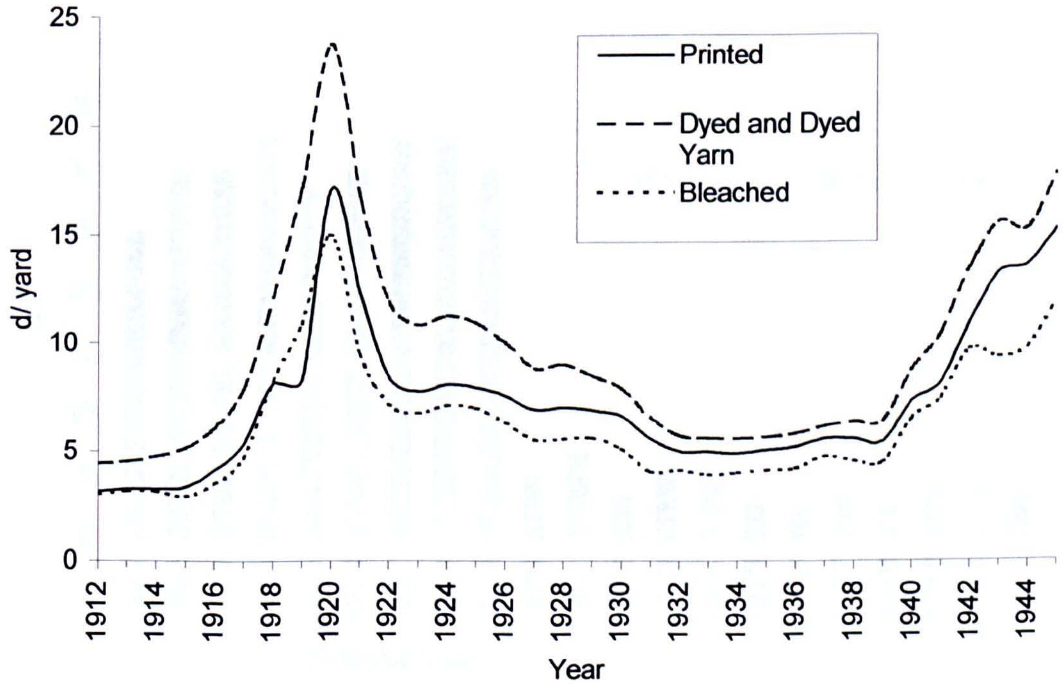

Figure 4.63 Export Prices of British Finished Cotton Piece Goods, 1912-45.

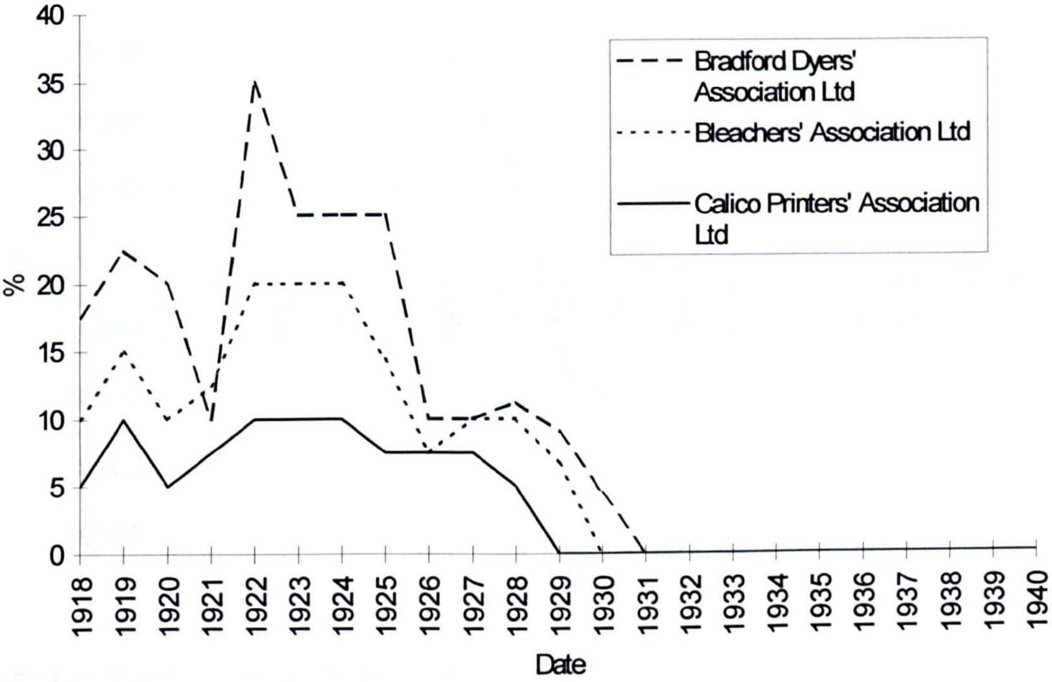

Figure 4.64 Ordinary Dividends of the Textile Finishing Combines, 1918-40.

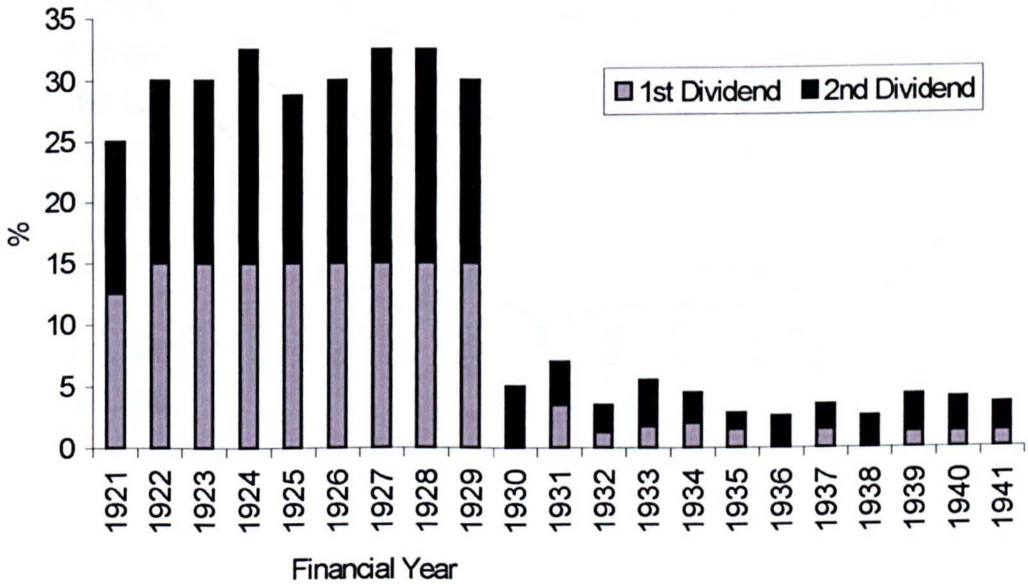

Figure 4.65 Ferguson Bros. Ltd. Dividends, 1921-41.

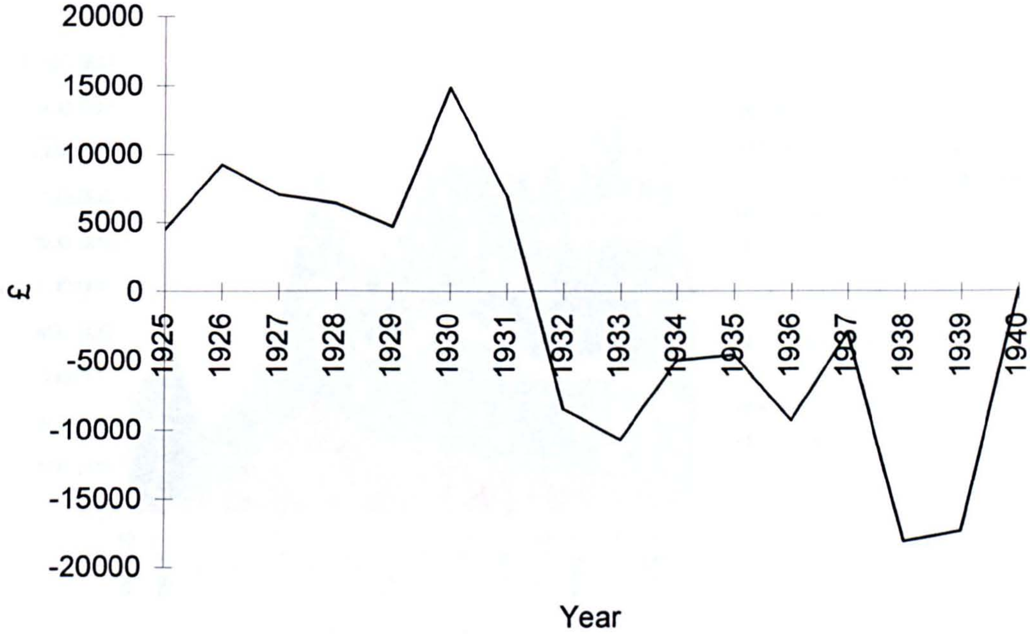

Figure 4.66 Profits of Scottish Dyers' & Printers' Ltd., 1925-40.

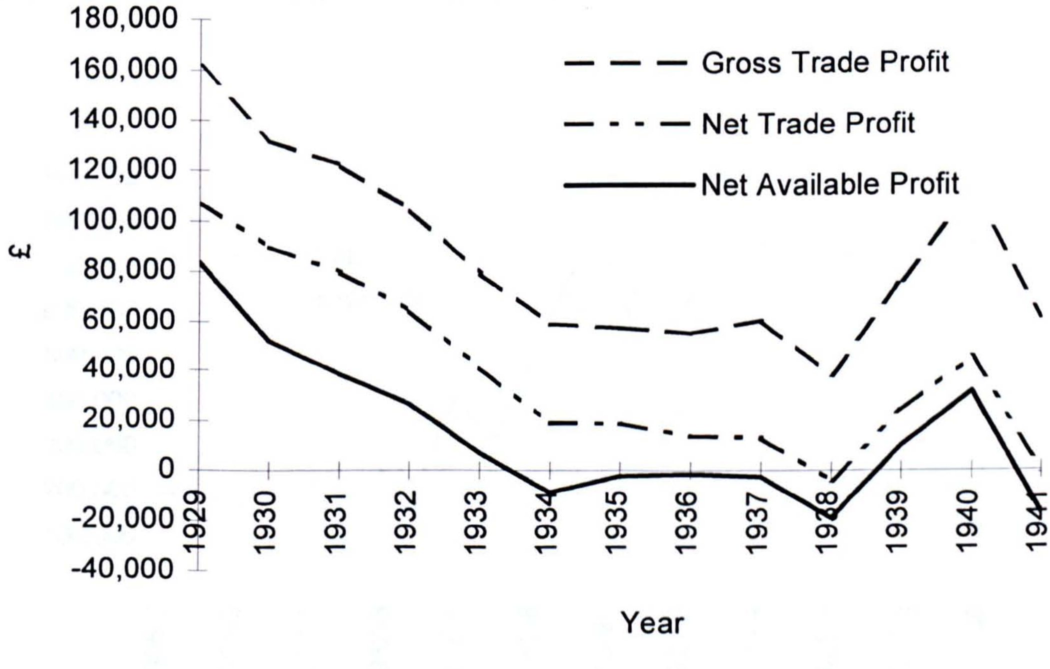

Figure 4.67 Profits of J. Chadwick & Co. Ltd., 1929-4.

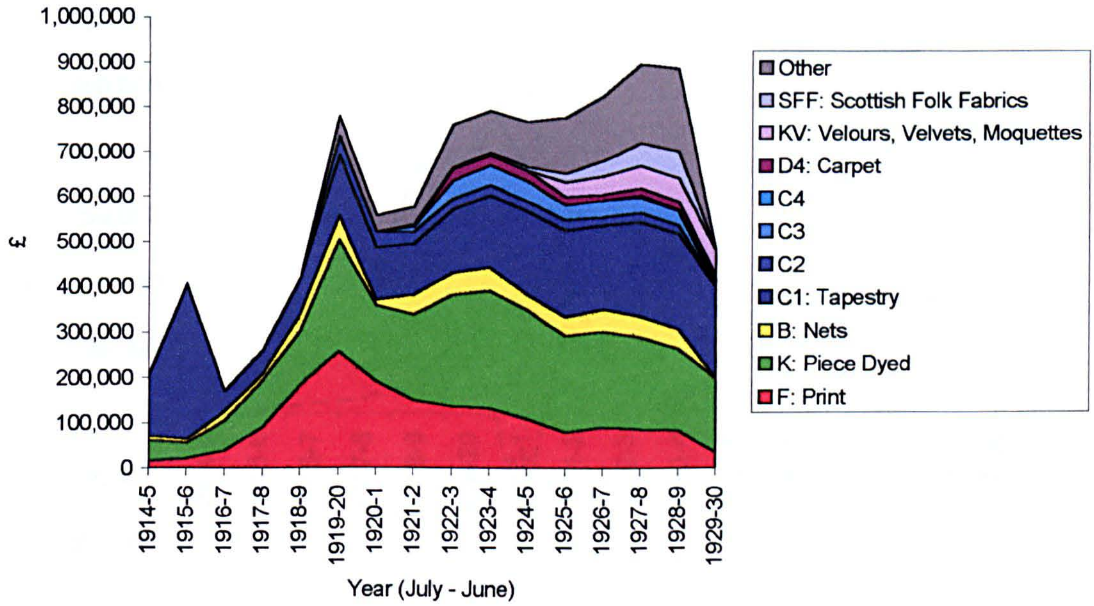

Figure 4.68 MSF Ltd. Departmental Sales, 1914/15-1929/30.
Note: C2-4 includes production of brocades, damasks and other weaves.

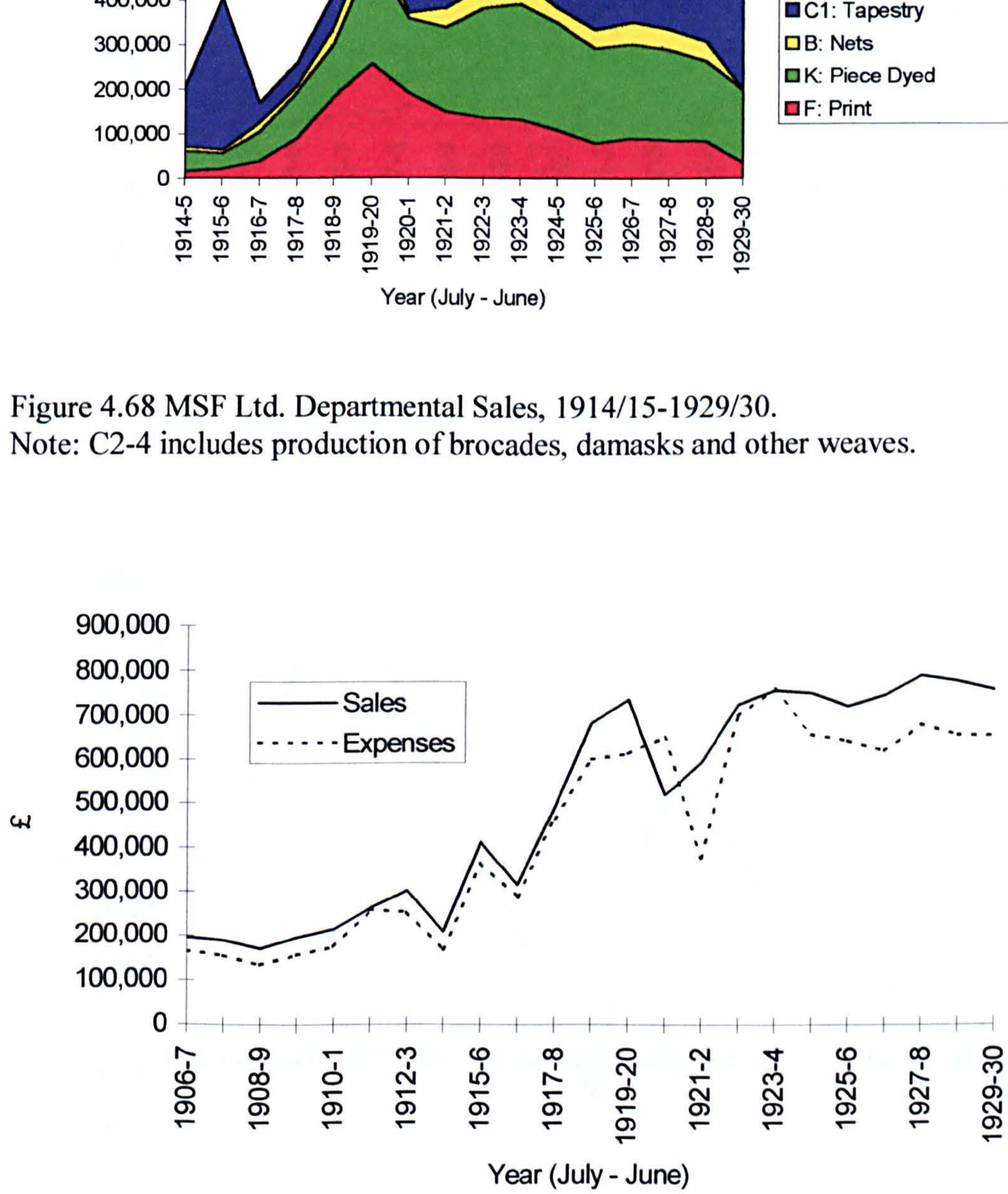

Figure 4.69 MSF Ltd. Sales & Expenses, 1906/7-1929/30.

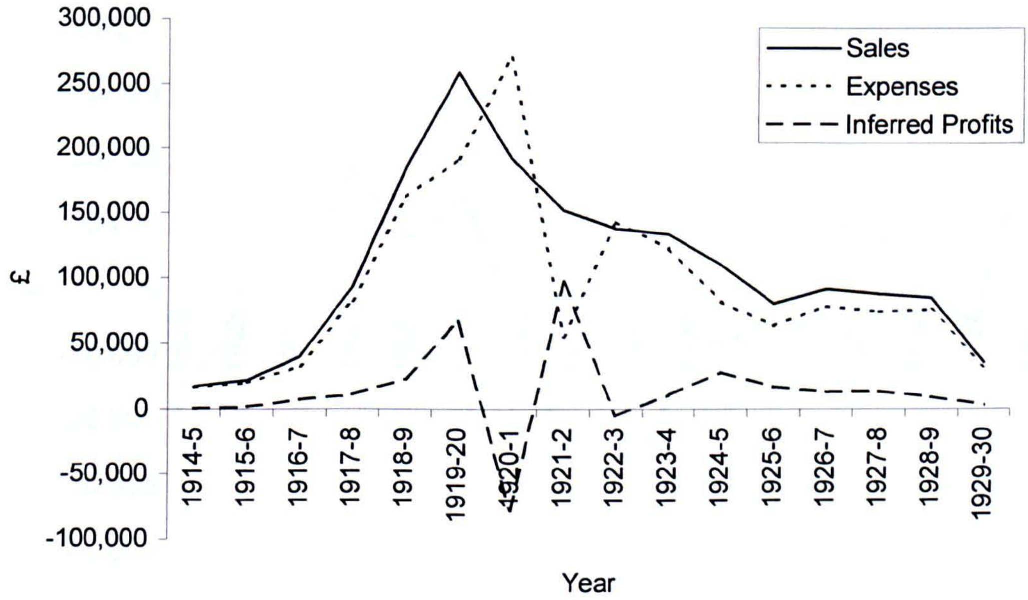

Figure 4.70 MSF Print Dept Sales & Expenses

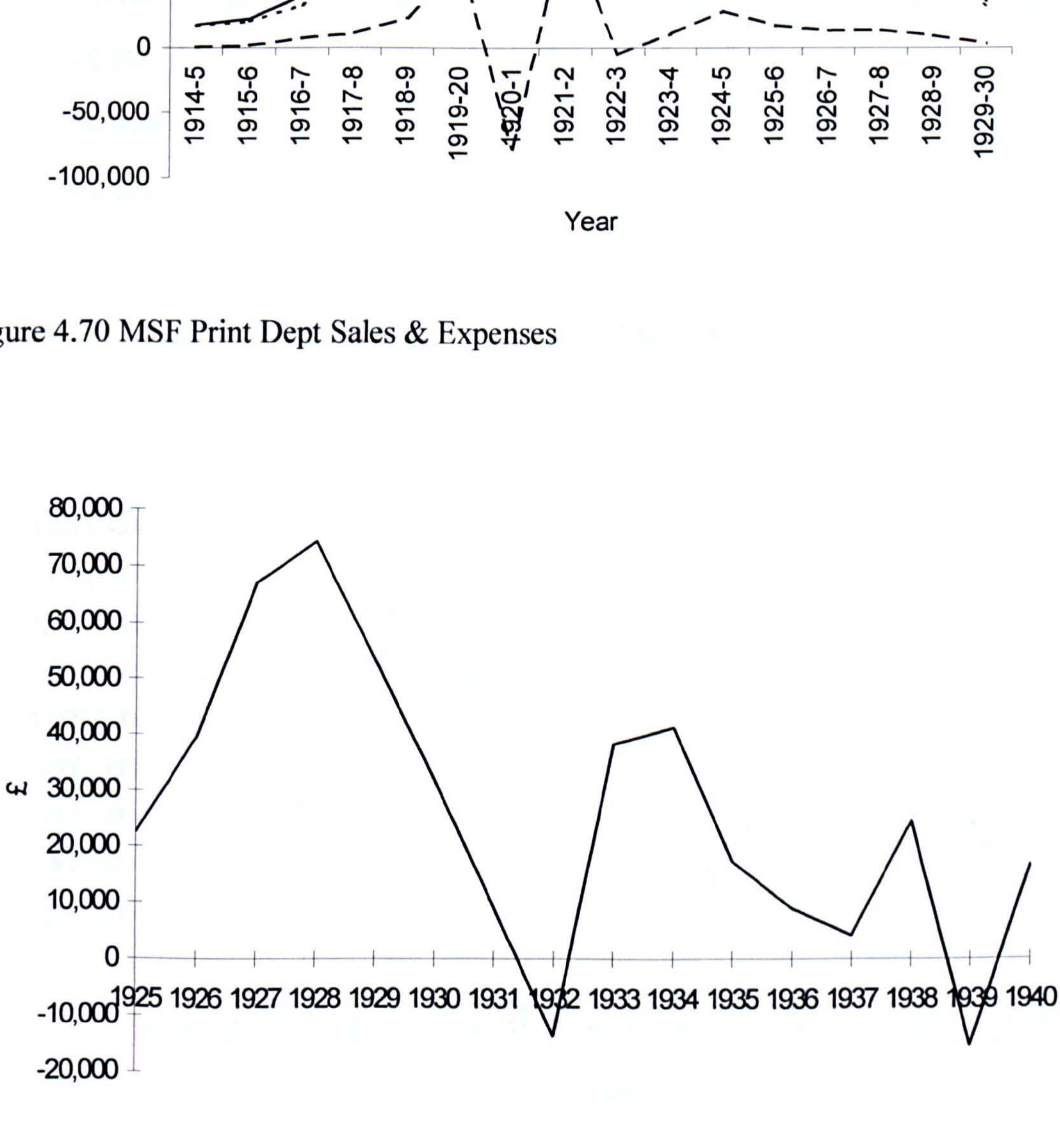

Figure 4.71 MSF Ltd. Profits, 1925-40.

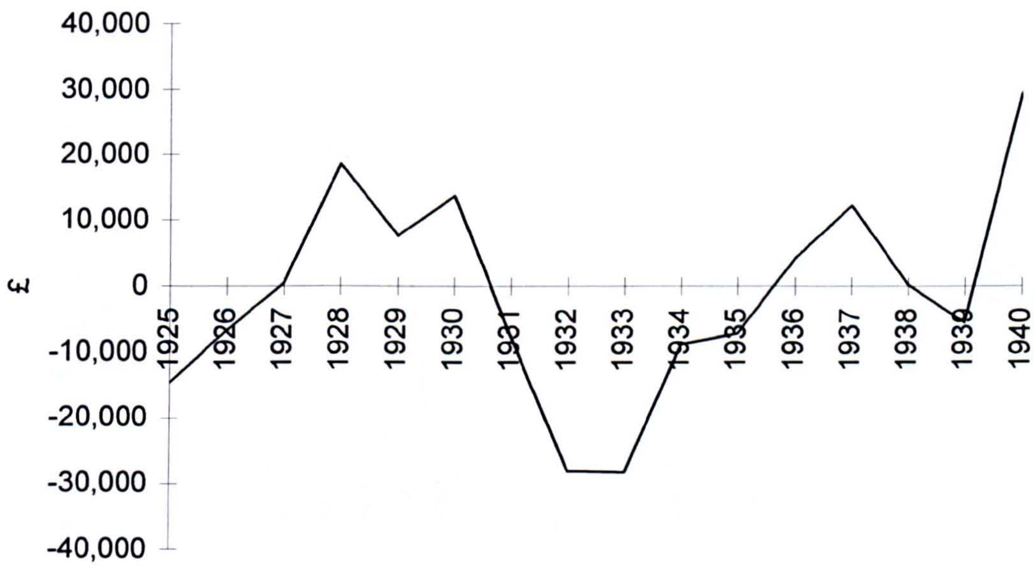

Figure 4.72 Profits of Standfast Dyers' & Printers' Ltd., 1925-40.

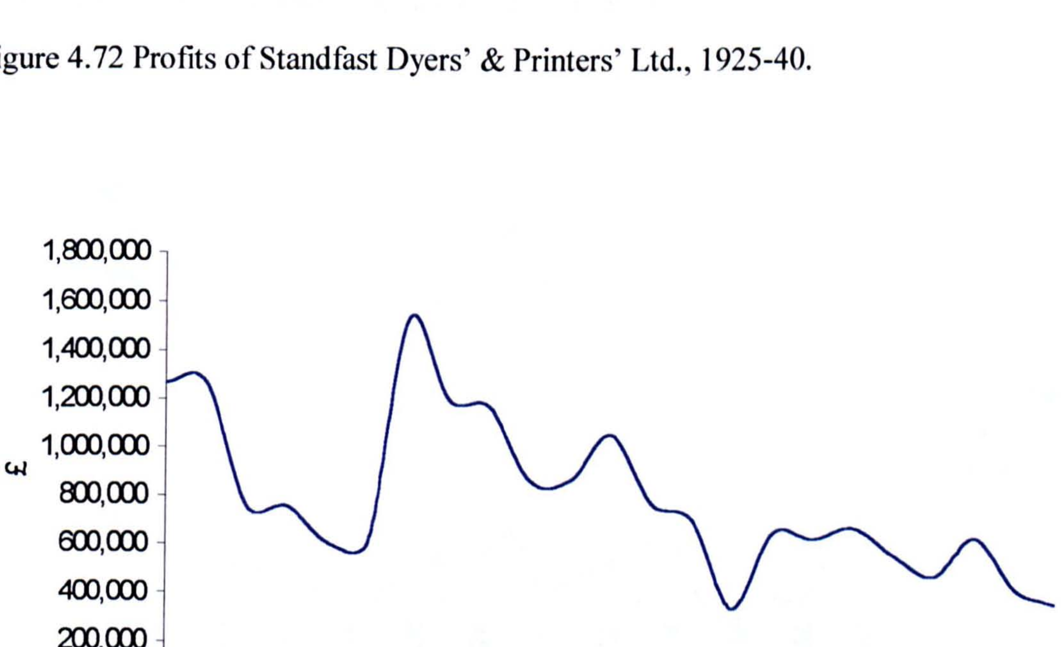

Figure 4.73 CPA Profits, 1917-39.

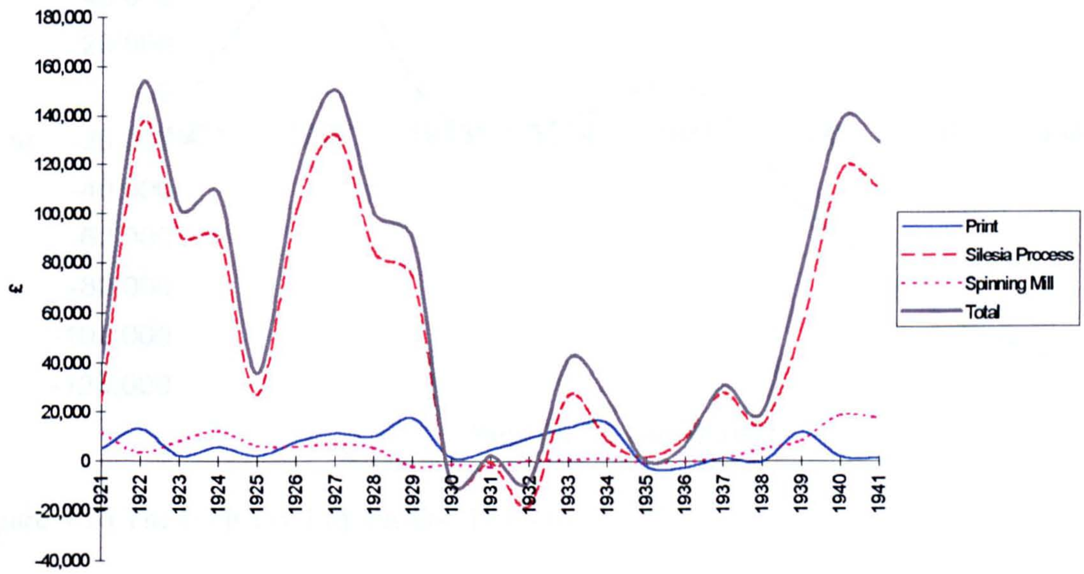

Figure 4.74 Ferguson Bros. Ltd. Departmental Profits, 1921-41.

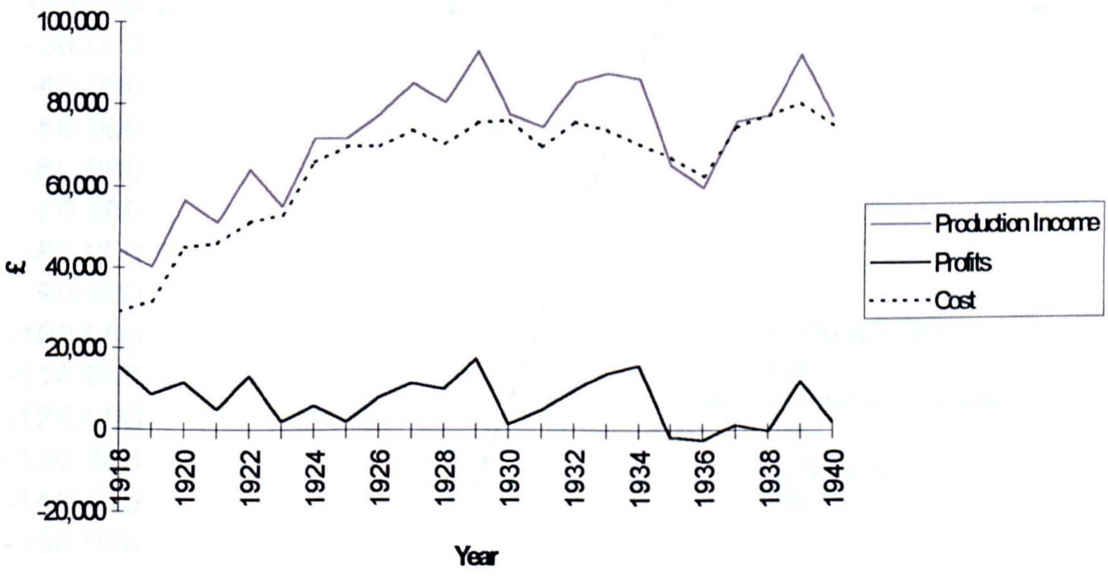

Figure 4.75 Ferguson Bros. Ltd. Print Dept Profits, 1918-40.

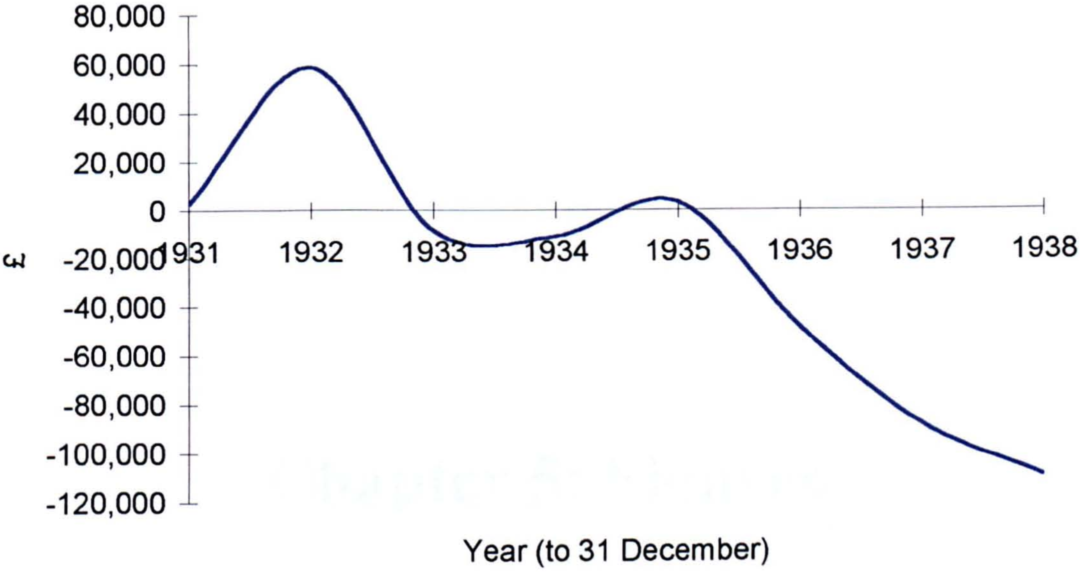

Figure 4.76 The UTR Co. Ltd. Profits, 1931-38.

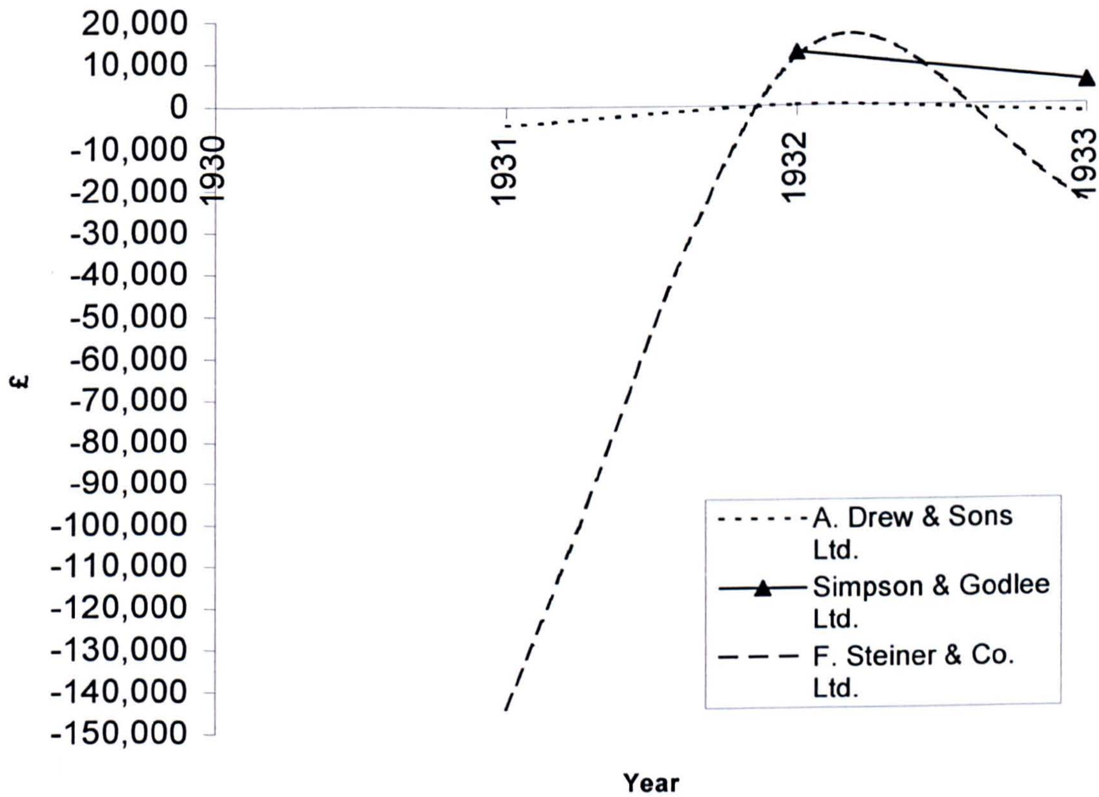

Figure 4.77 Profits of A. Drew & Sons Ltd., F. Steiner & Co. Ltd. and Simpson & Godlee Ltd., 1930-3.

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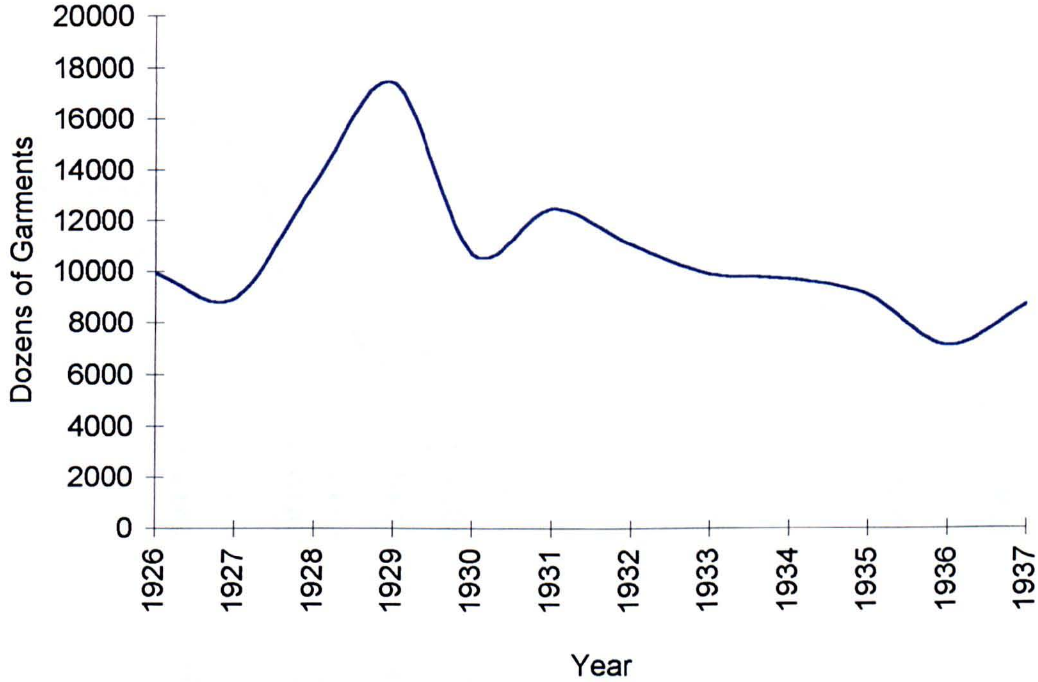

Figure 5.1 United Turkey Red Ltd. Garment Production, 1926-1937.

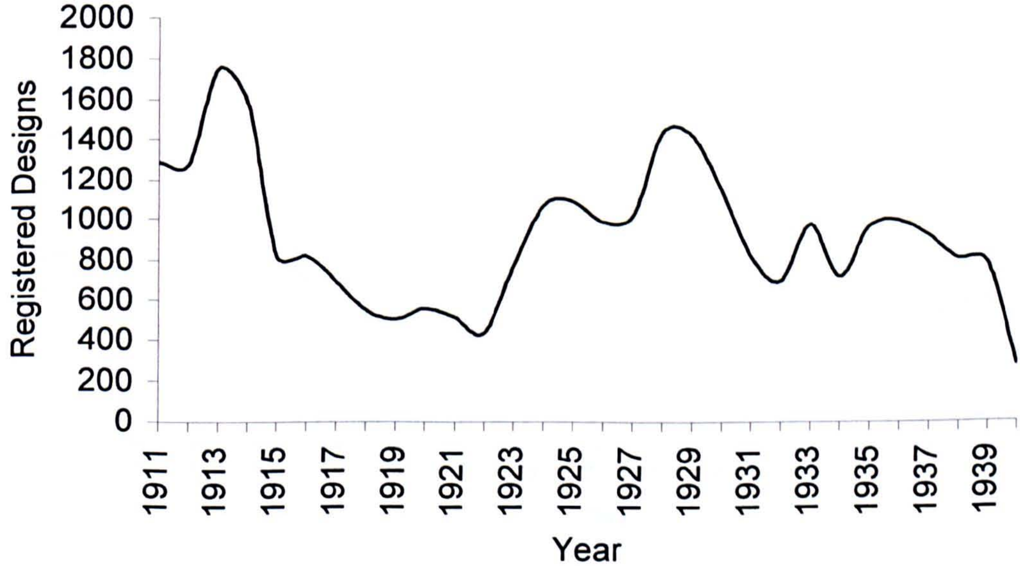

Figure 5.2 January Samples of Textile Designs Registered in Britain, 1911-40.

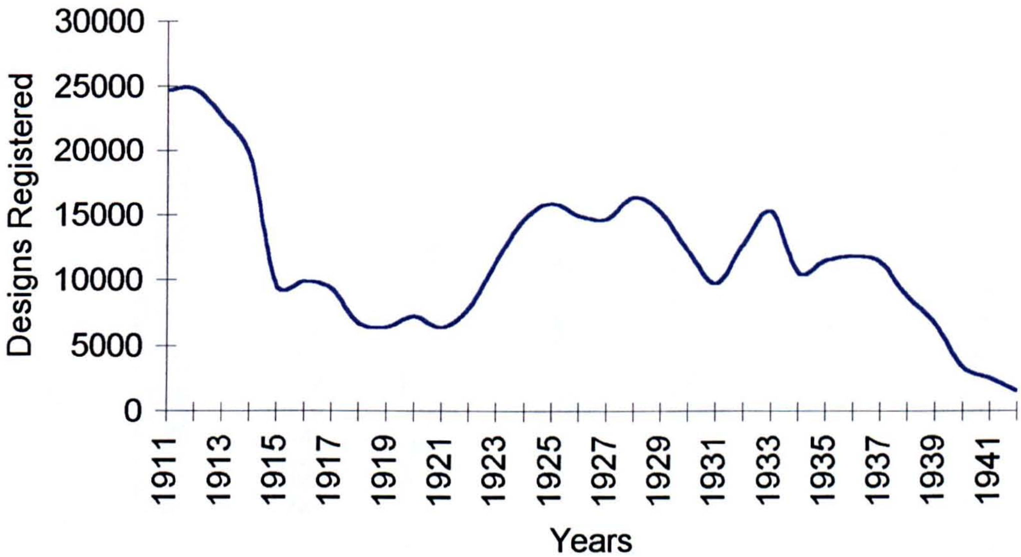

Figure 5.3 Total Textile Designs Registered in Britain, 1911-1942.

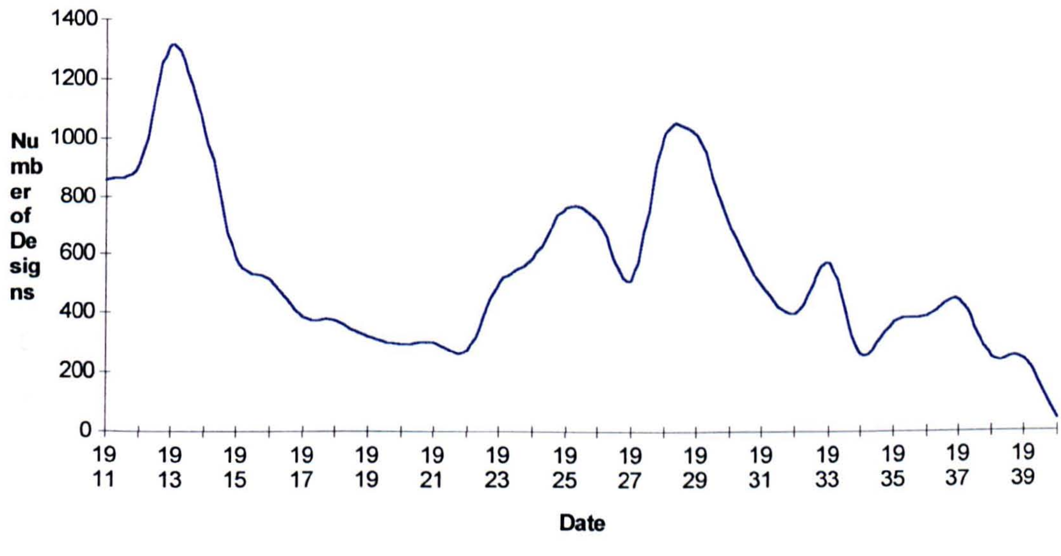

Figure 5.4 CPA Registered Textile Designs in January Samples

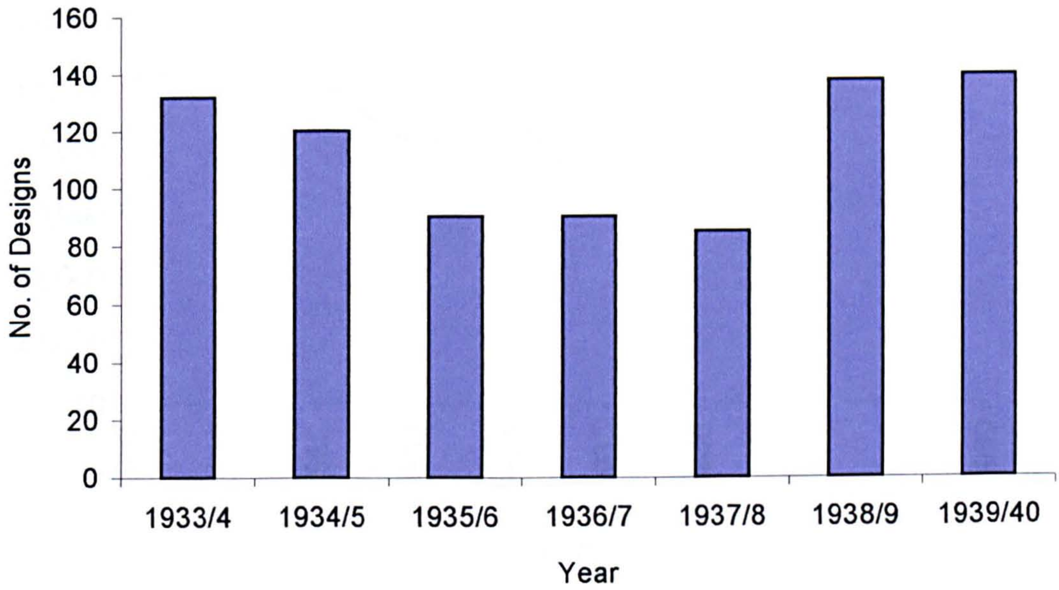

Figure 5.5 CPA Sample Book (at the Archive of Art and Design): Estimate of Annual Designs, 1933/4-1939/40.

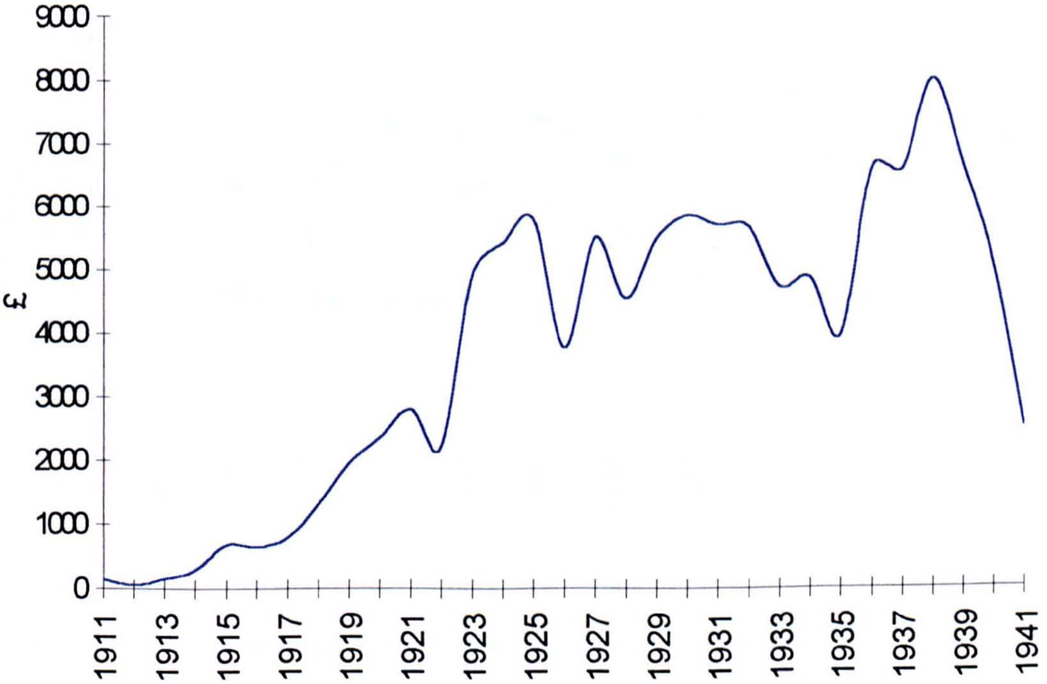

Figure 5.6 Ferguson Bros. Ltd. Engraving and Design Costs, 1911-41.

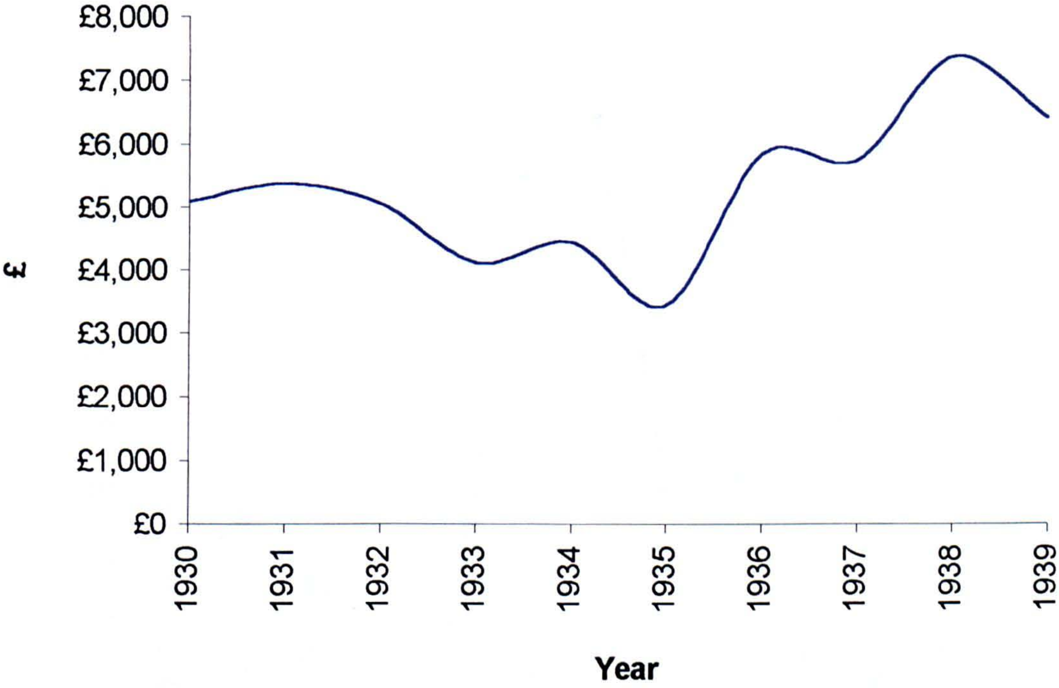

Figure 5.7 Ferguson Bros. Ltd. Engraving Costs Per Year, 1930-39.

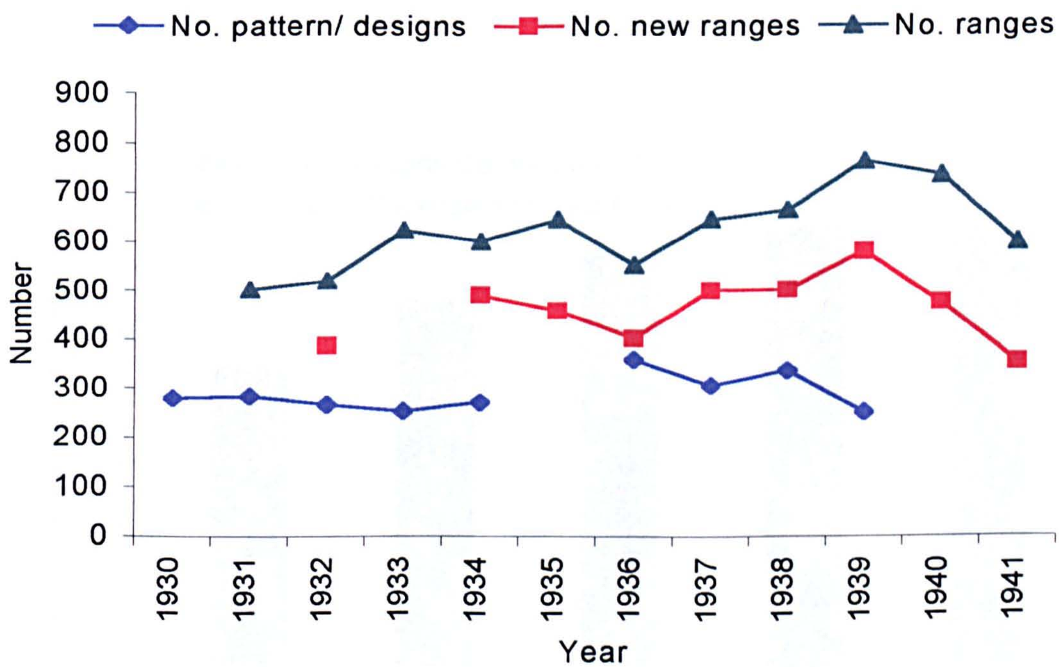

Figure 5.8 Ferguson Bros. Ltd. New Patterns and Ranges, 1930-41.

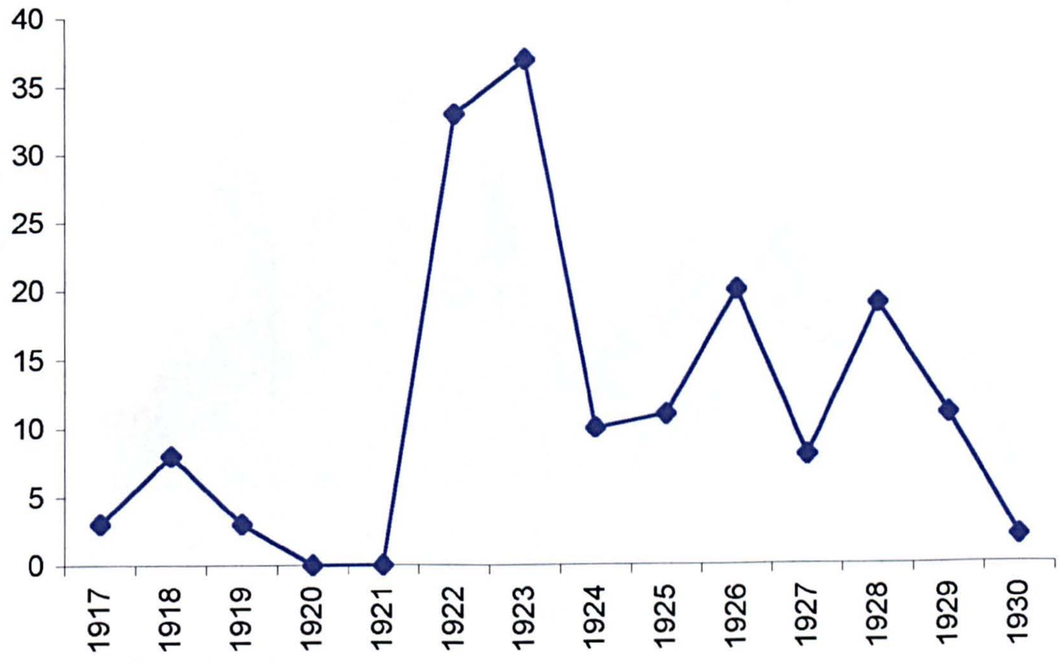

Figure 5.9 A. Morton & Co. Ltd. New Designs, 1917-30 (block prints).

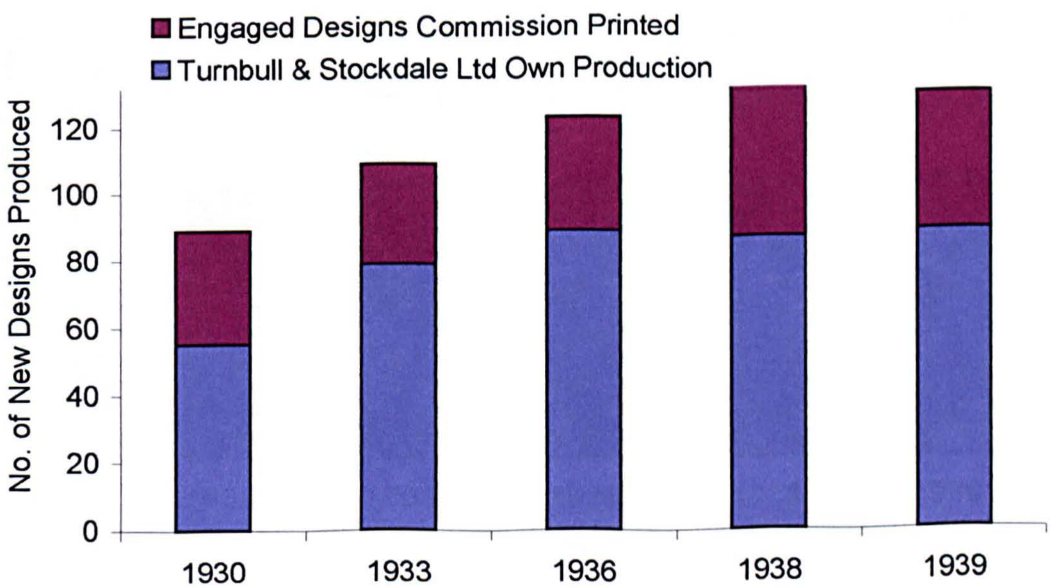

Figure 5.10 Turnbull & Stockdale Ltd. New Designs, 1930-39.

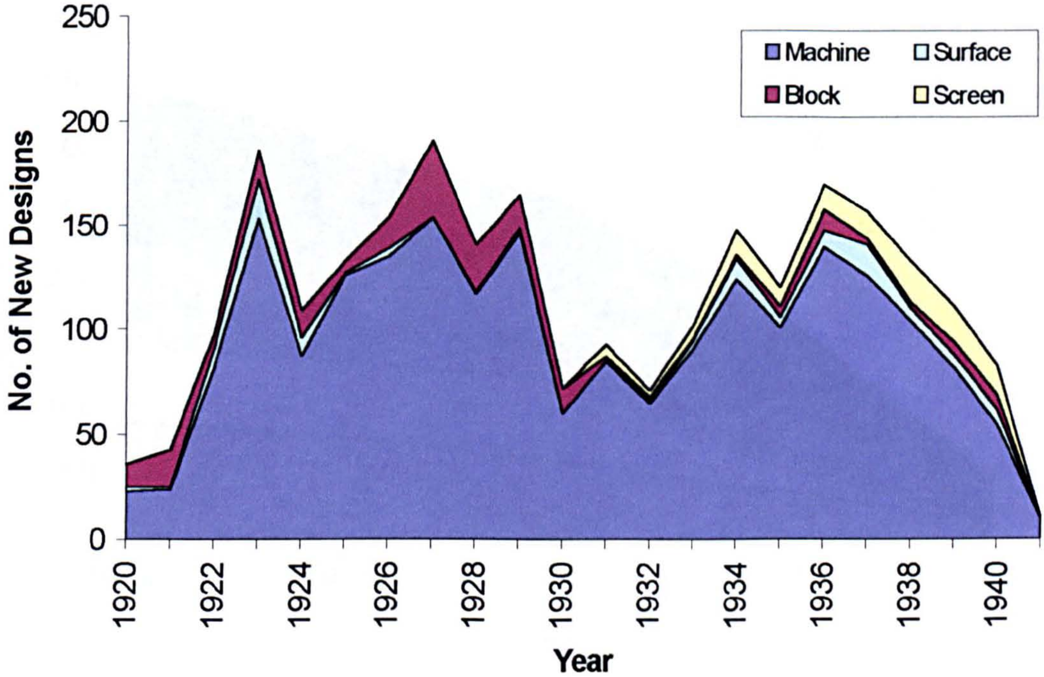

Figure 5.11 Stead McAlpin Ltd.: Production Type of New Designs Commissioned, 1920-41.

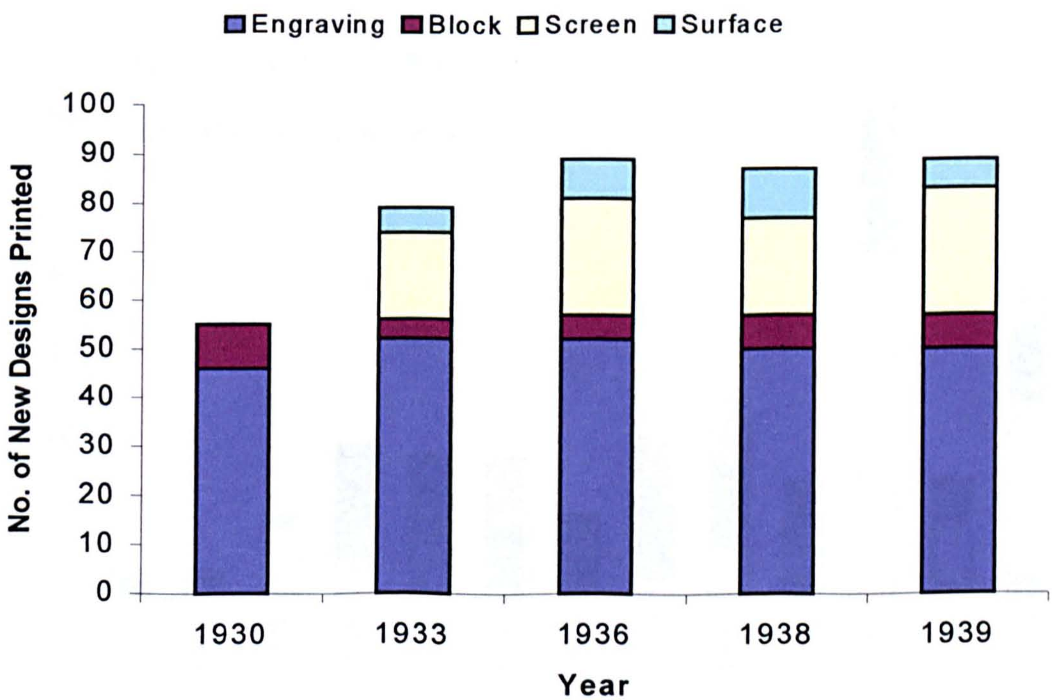

Figure 5.12 Turnbull & Stockdale Ltd.: Production Type of New Designs, 1930-39.

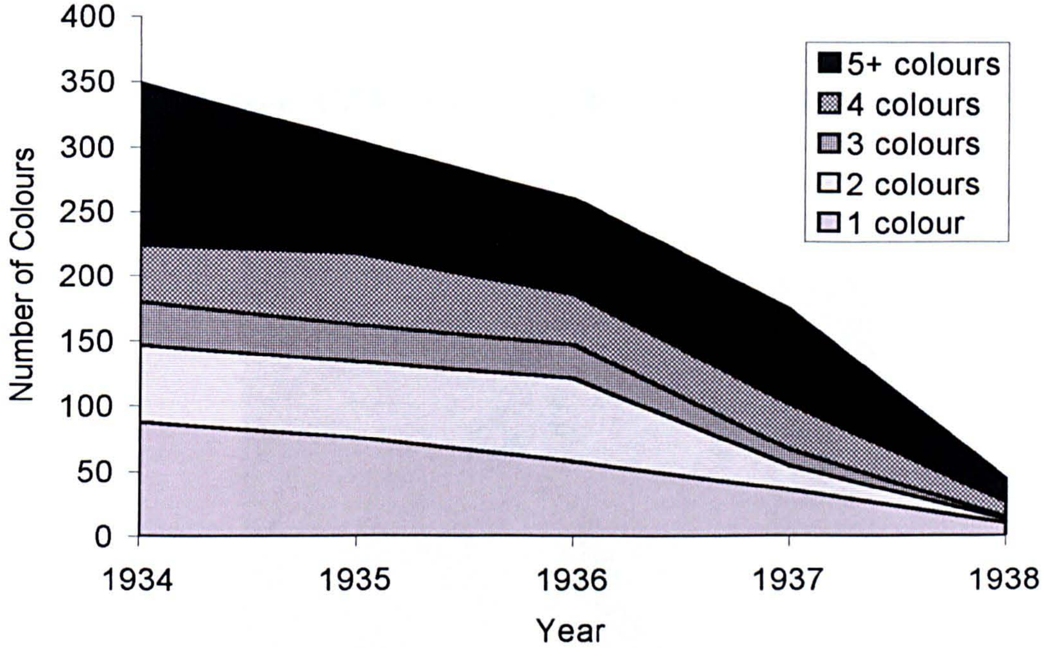

Figure 5.13 CPA: Number of Colours Used in 1934-8 Potter's Engraving Book Designs.

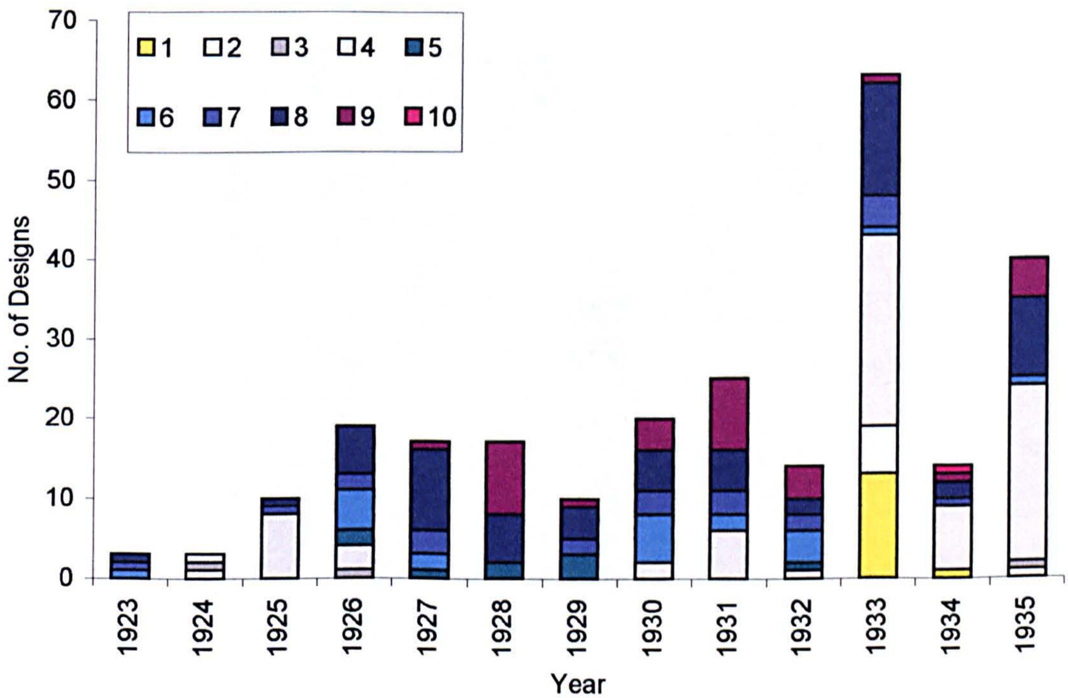

Figure 5.14 Morton Sundour Fabrics Ltd.: Number of Rollers Per Design, 1923-35.
Note: 2, 3 and 4 colour prints were duplex.

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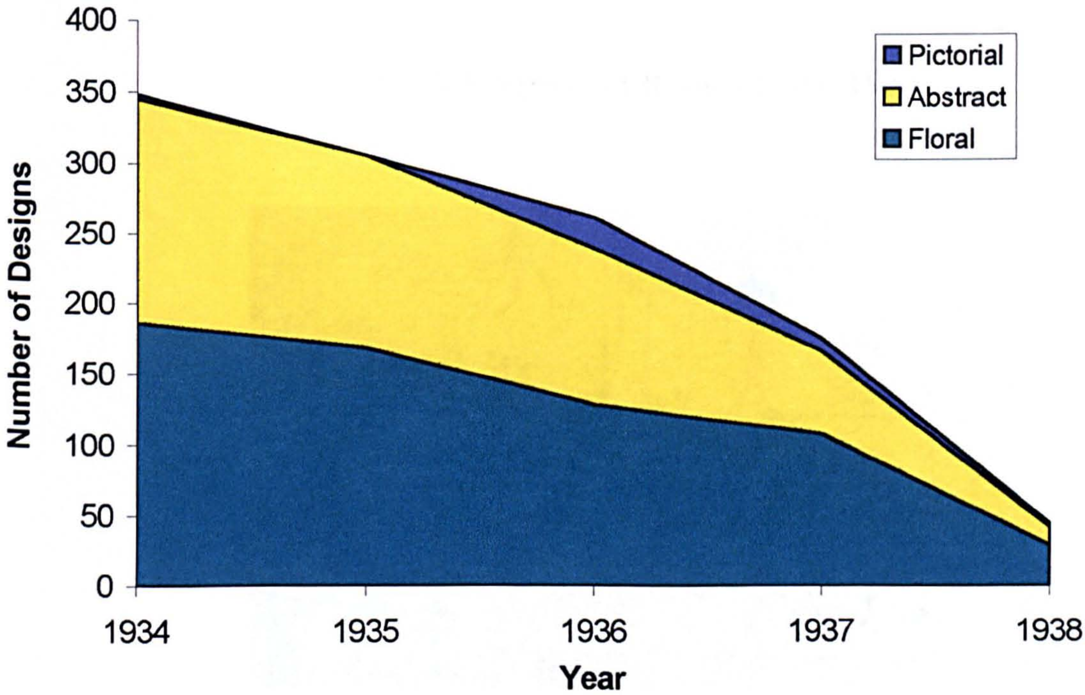

Figure 6.41 CPA Potter's Engraving Book design styles, 1934-8.

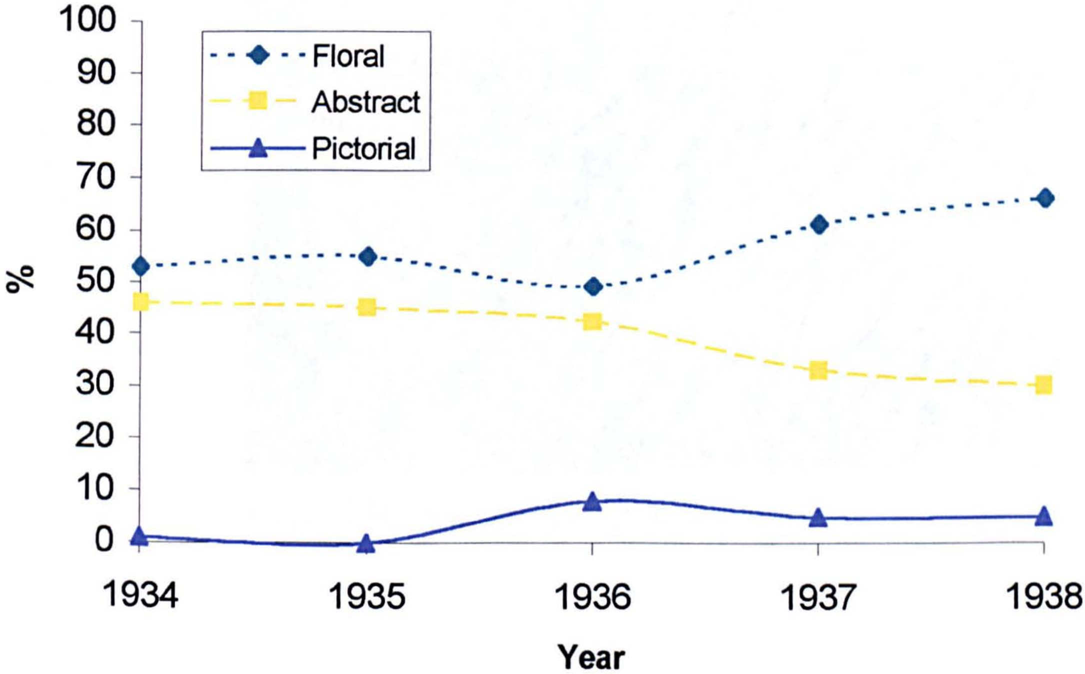

Figure 6.42 Style Trends in CPA Engraving Book, 1934-8.

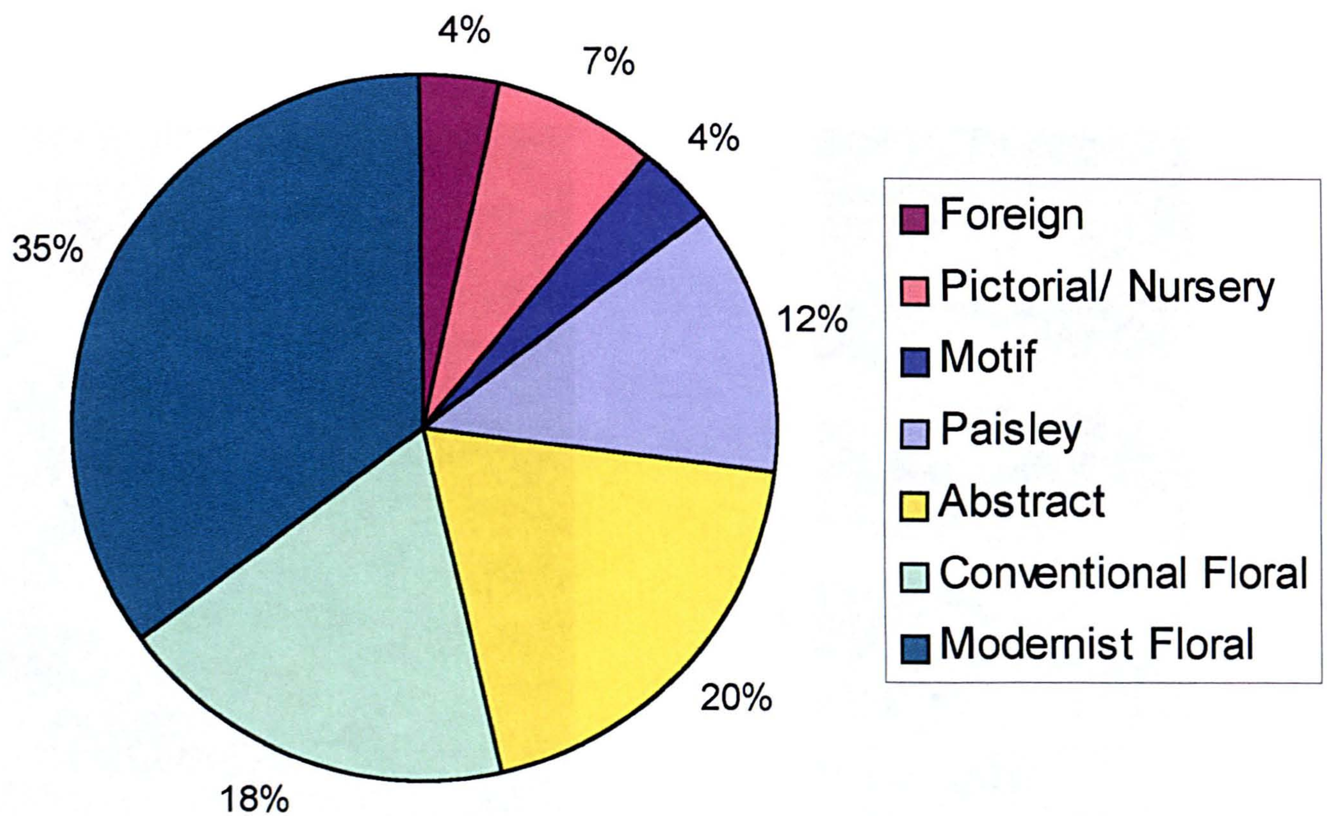

Figure 6.47 CPA Birch Vale silk print design styles, 1928-38.

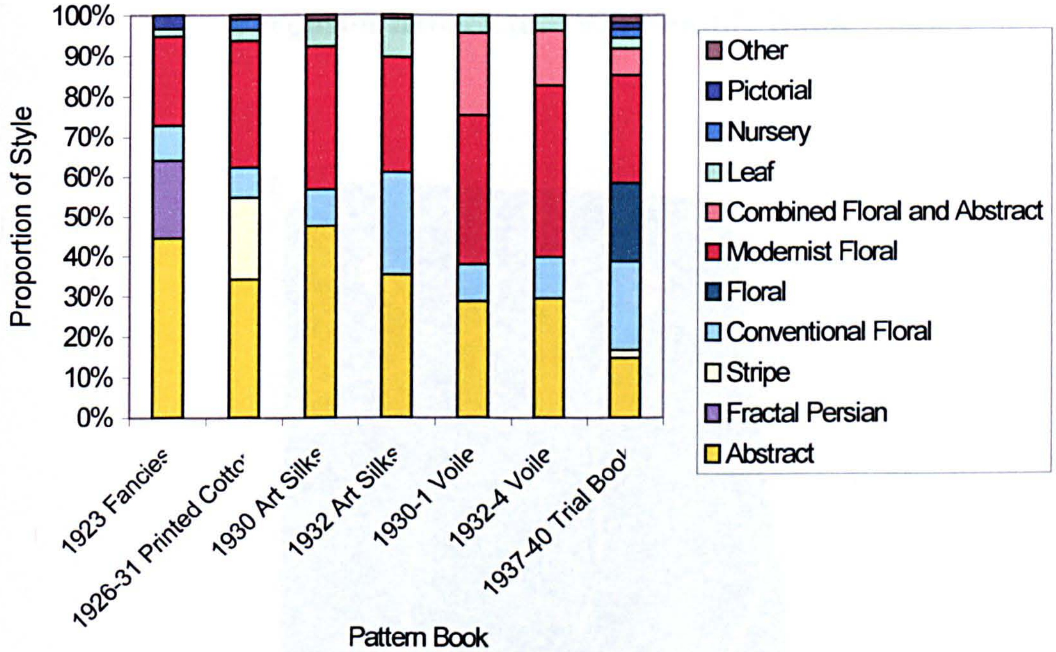

Figure 6.71 Ferguson Bros. Ltd. Sample Book Analysis of Style Change.

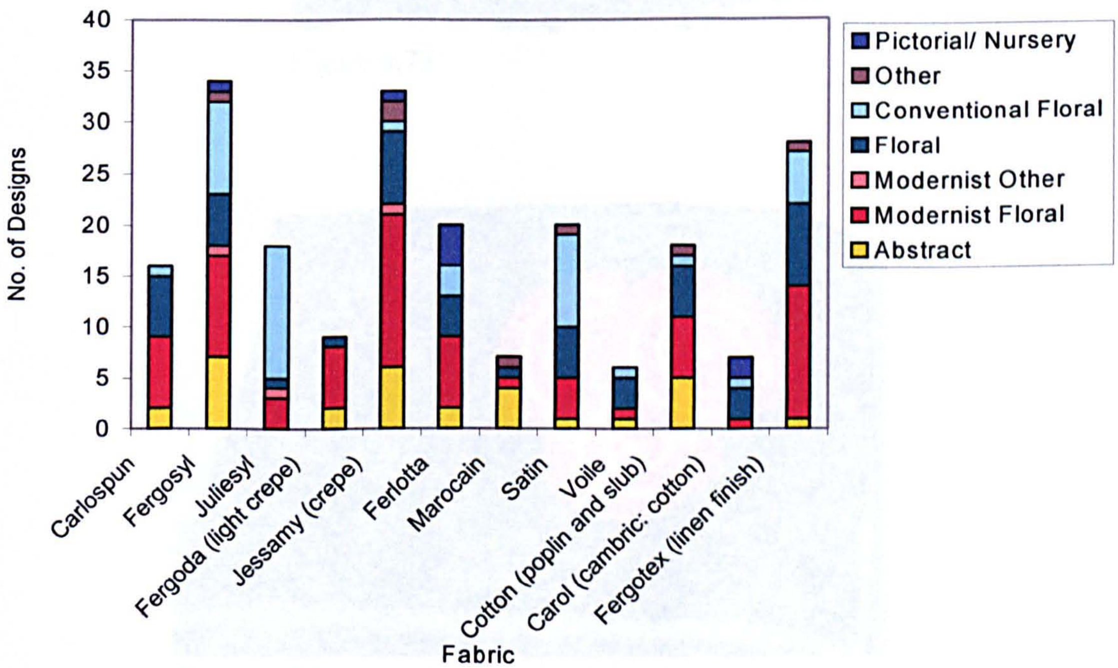

Figure 6.72 Style Analysis of Fabric Type in Ferguson Bros. Ltd. Trial Book.

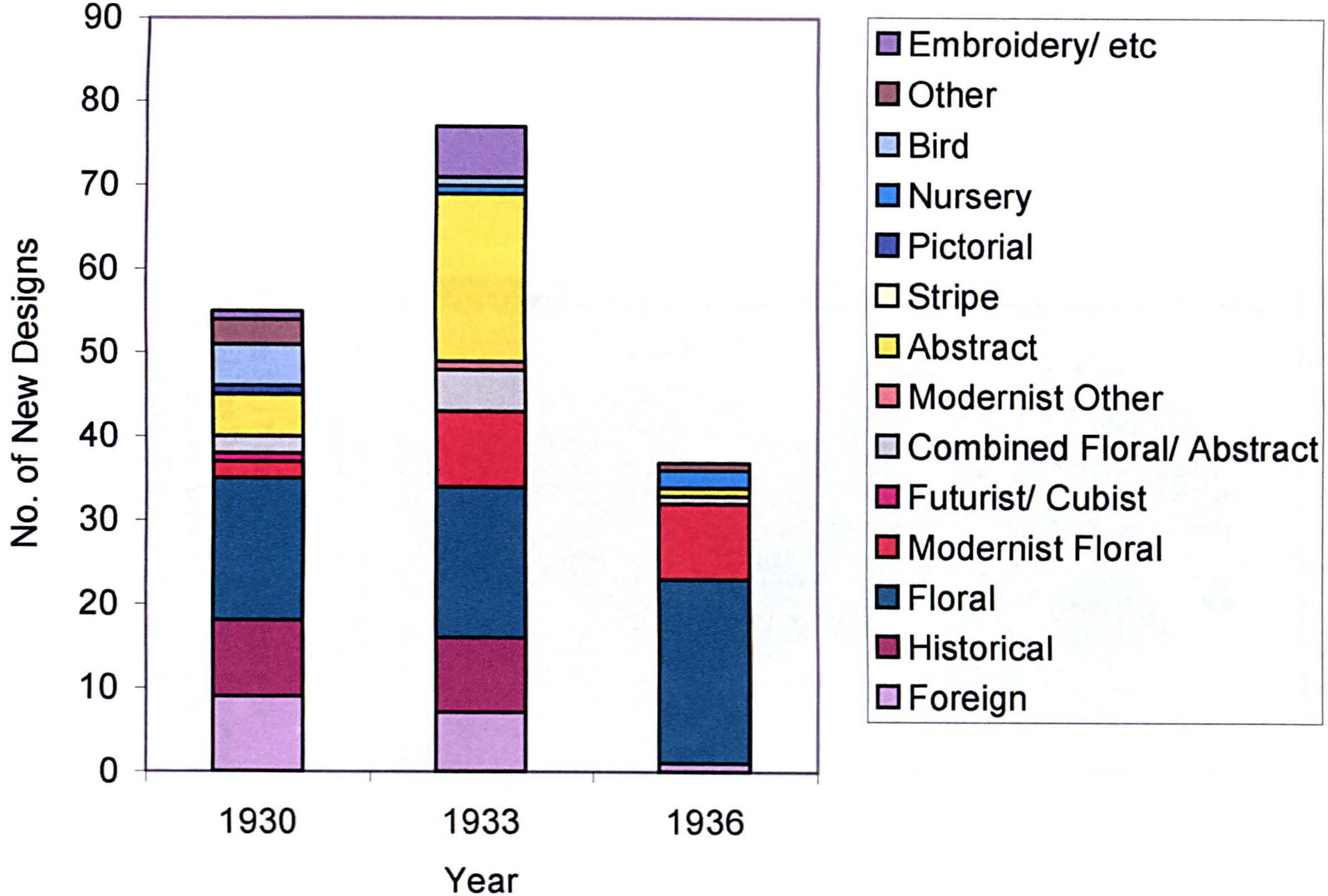

Figure 6.116 Turnbull & Stockdale Ltd.: Style Trends 1930-6.

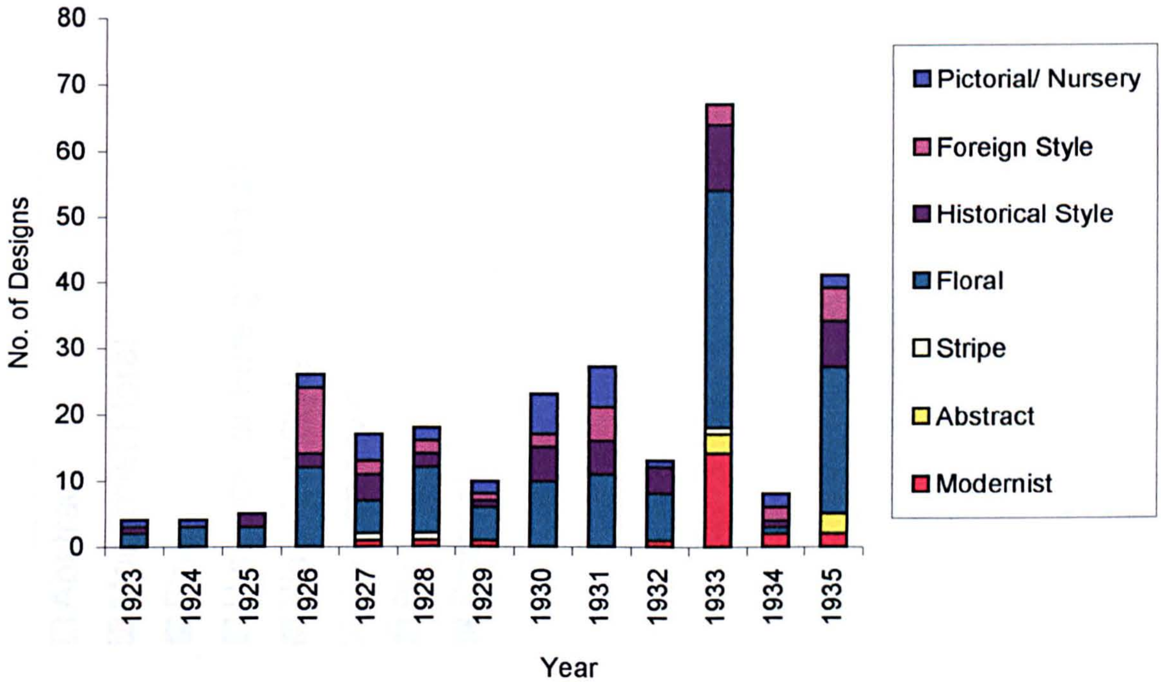

Figure 6.119 Morton Sundour Fabrics Ltd.: Style Change, 1923-35.

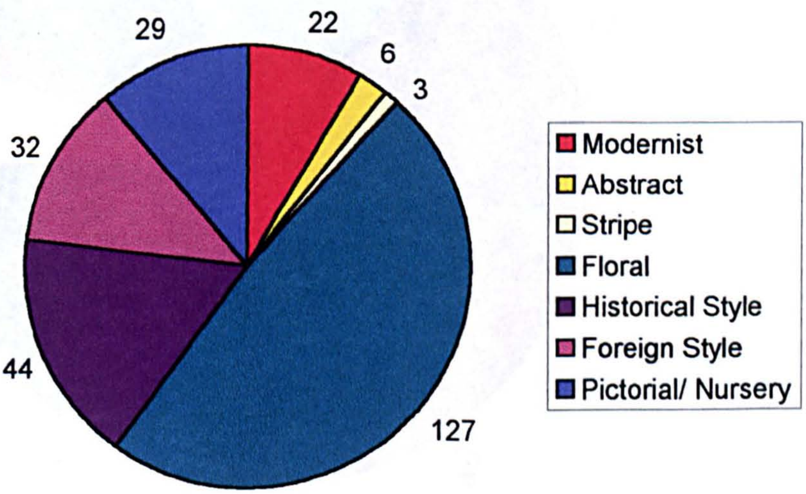

Figure 6.120 MSF Ltd. Style Analysis (Roller Print), 1923-35.

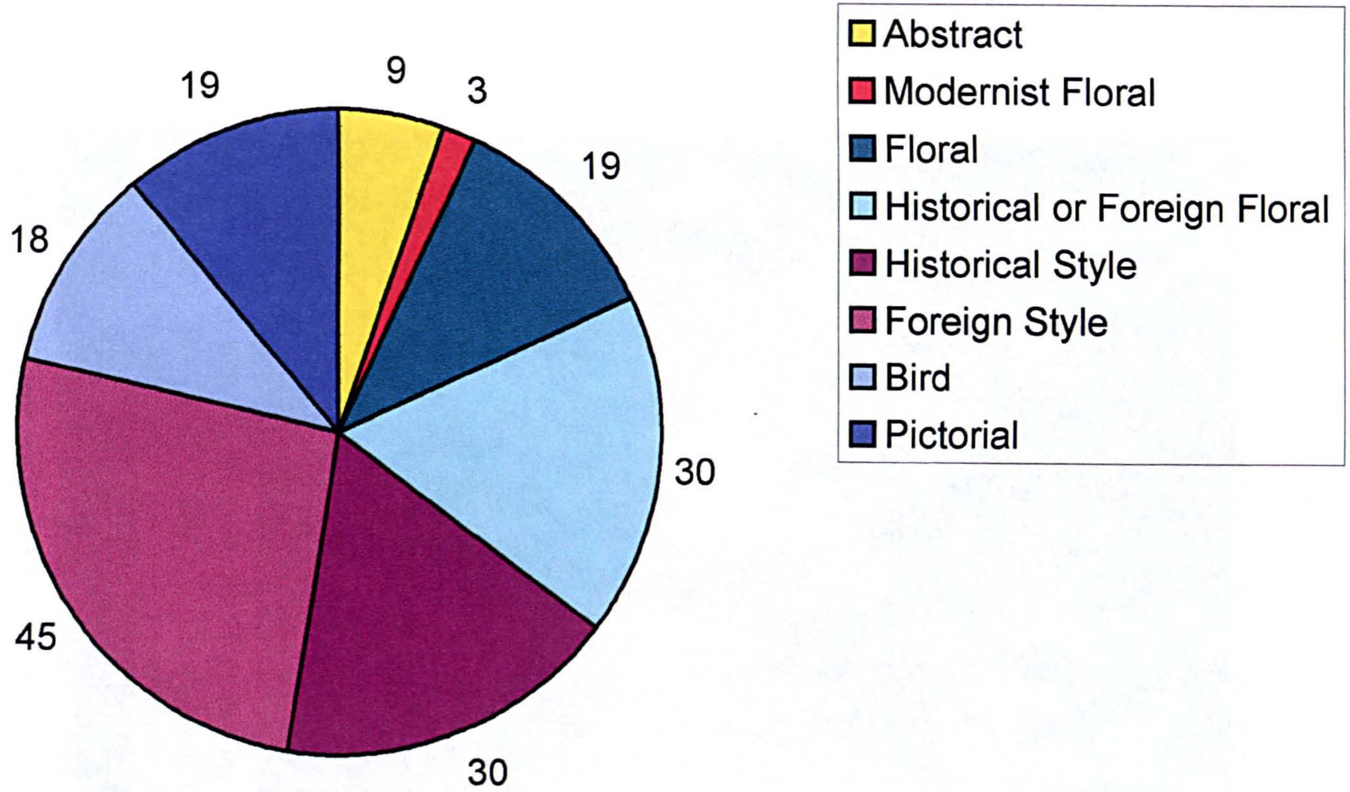

Figure 6.121 A. Morton & Co. Ltd.: Style Analysis, 1917-30 (Block Print).

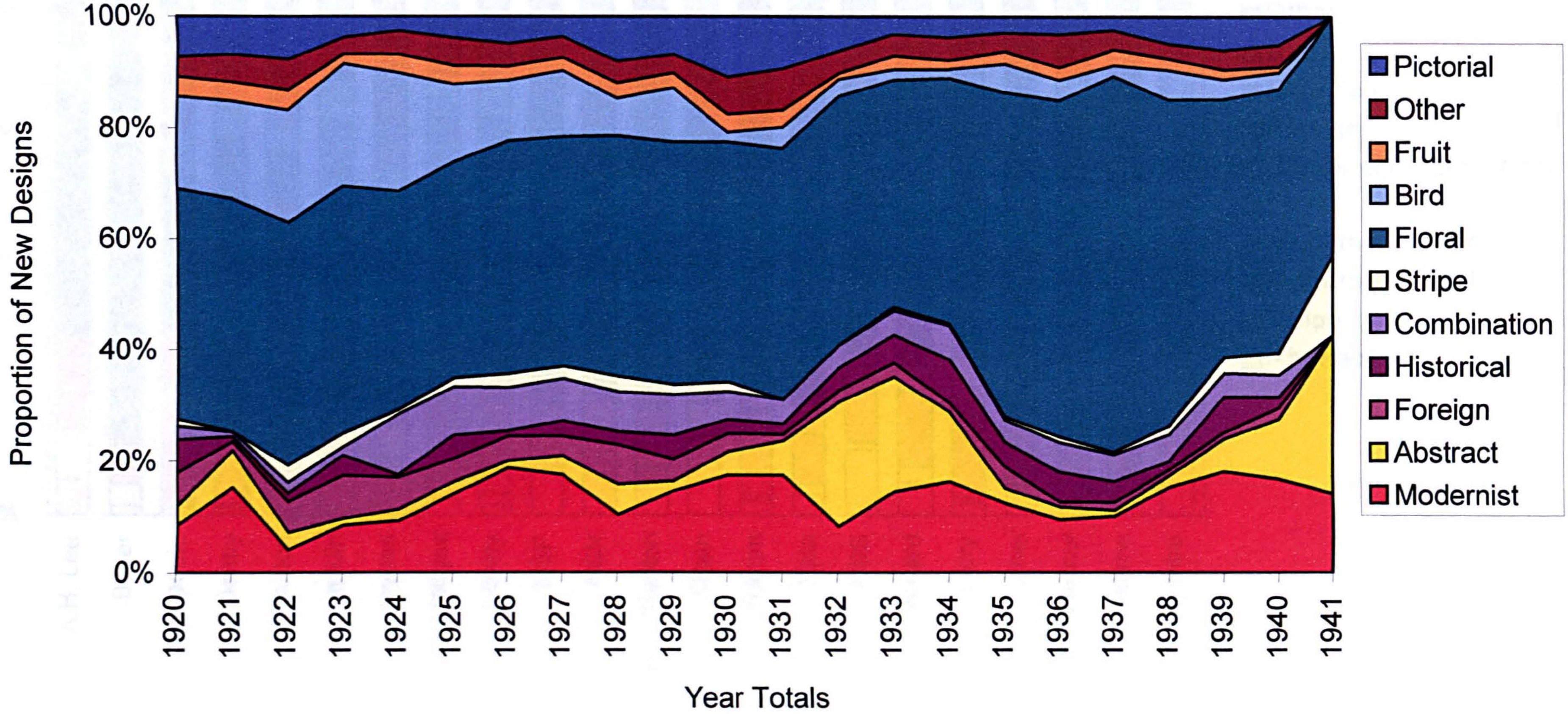

Figure 6.124 Stead McAlpin Ltd.: Style Trends, 1920-41.

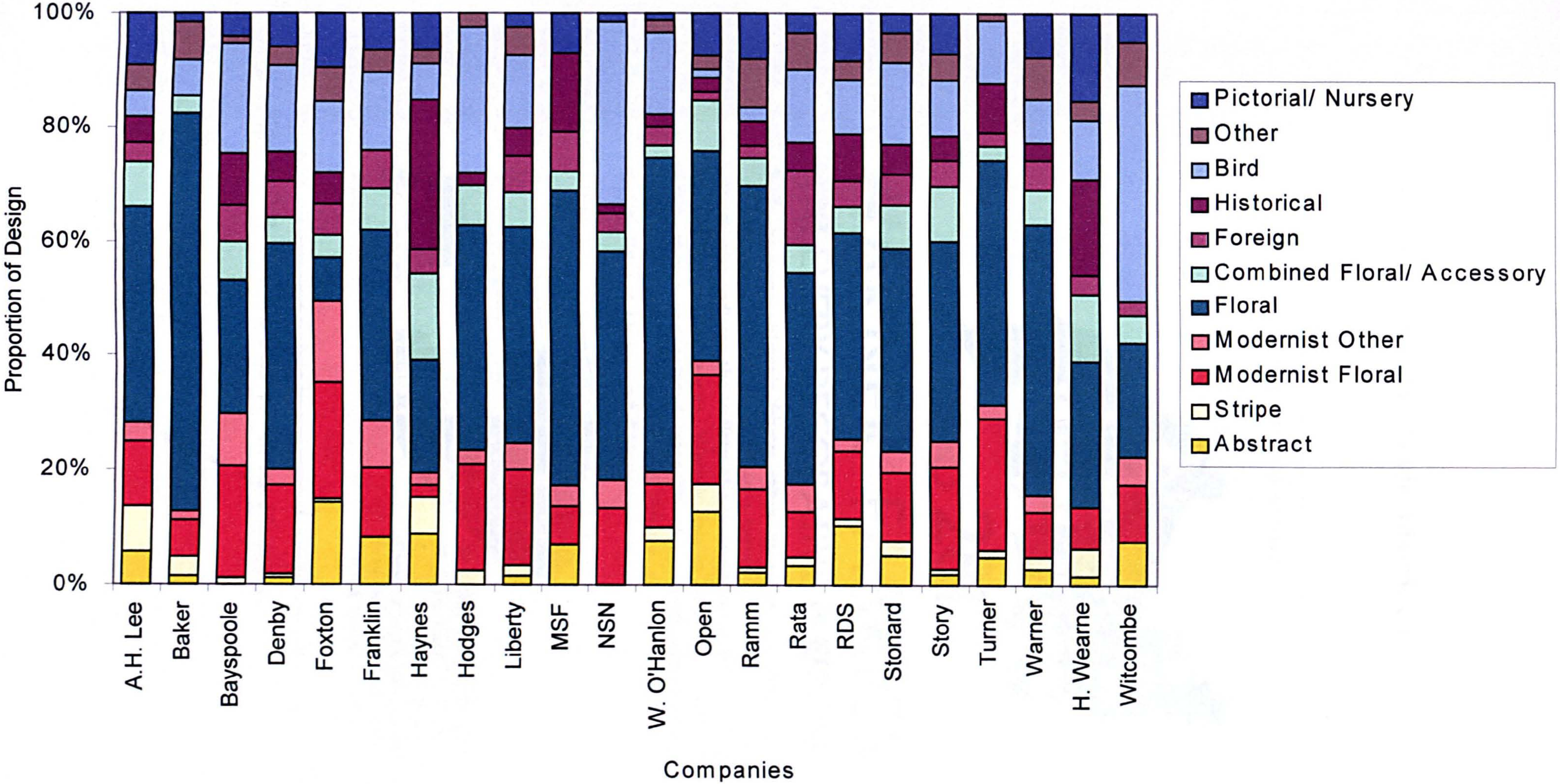

Figure 6.125 Analysis of Design Style of Companies Printed by Stead McAlpin Ltd., 1920-41.

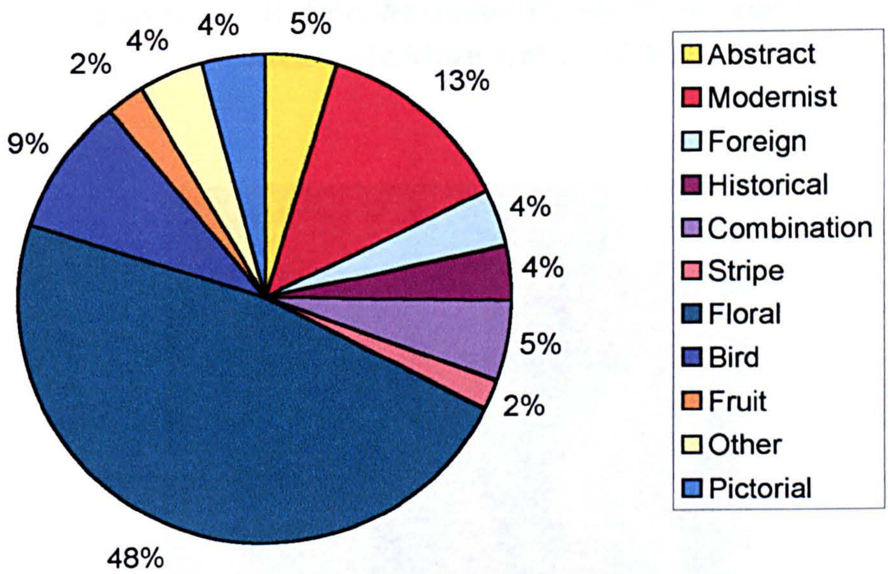

Figure 6.127 Stead McAlpin Ltd: Style Analysis of Engraved Roller Prints, 1920-41.

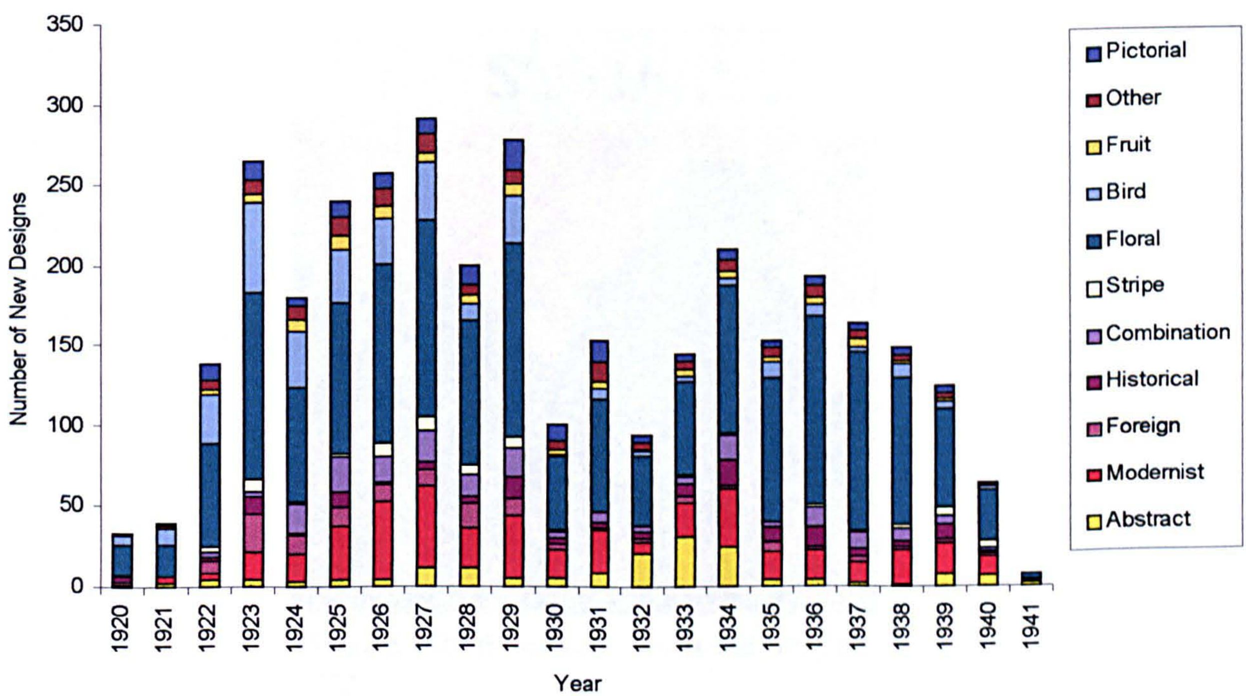

Figure 6.128 Stead McAlpin Ltd: Analysis of Style Trends in Engraved Roller Prints, 1920-41.

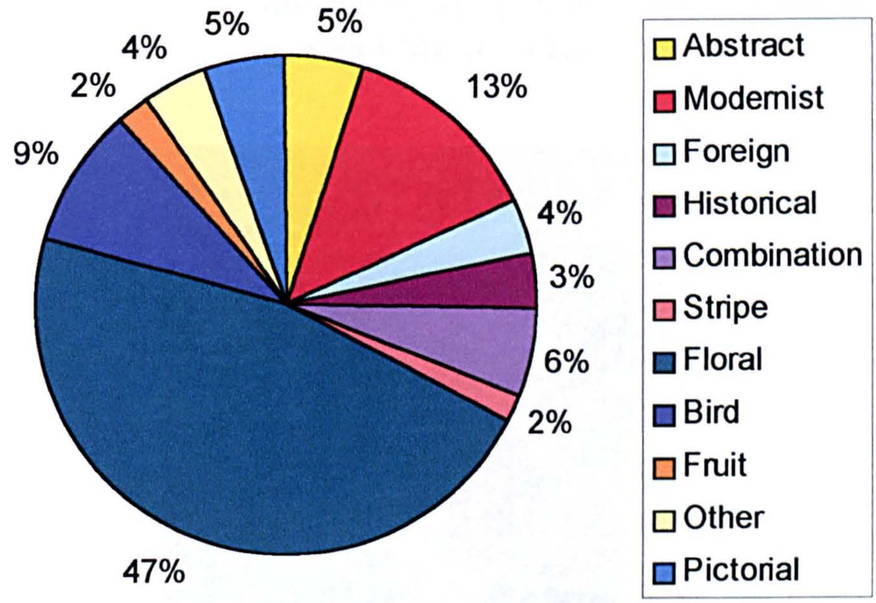

Figure 6.151 Stead McAlpin Ltd.: Style Analysis in Surface Roller Prints, 1920-41.

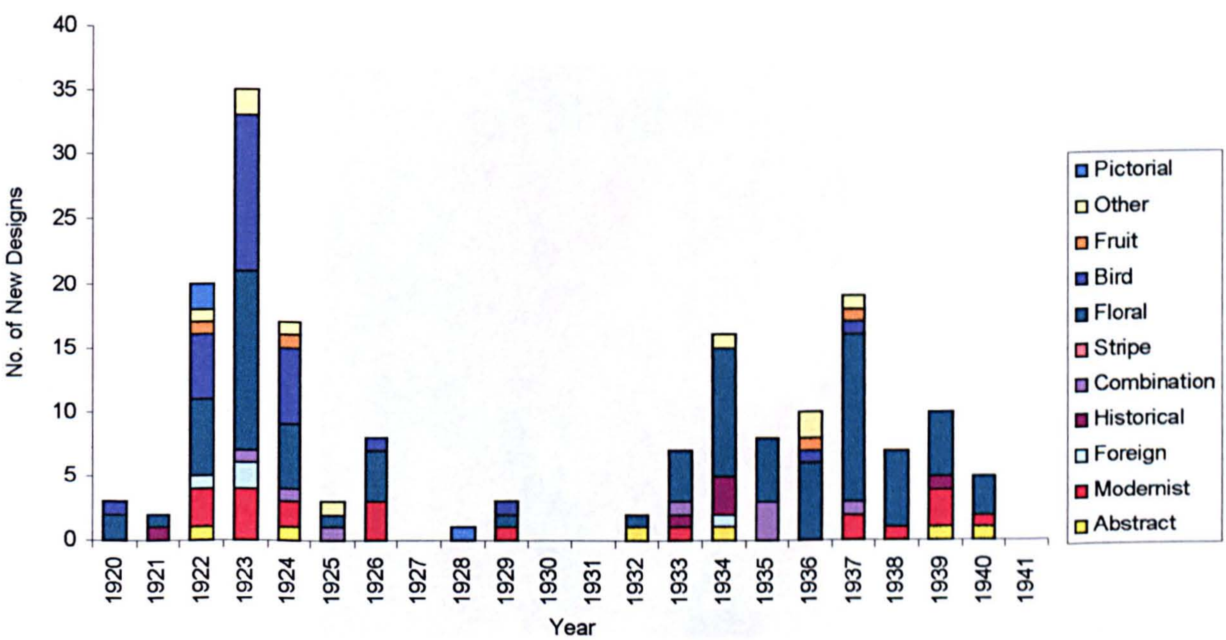

Figure 6.152 Stead McAlpin Ltd.: Style Trends in Surface Roller Prints, 1920-41.

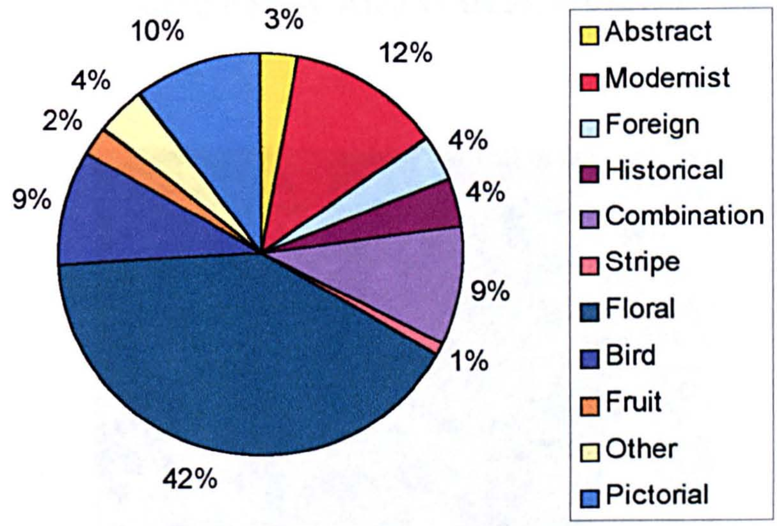

Figure 6.167 Stead McAlpin Ltd: Style Analysis in Block Prints, 1920-41.

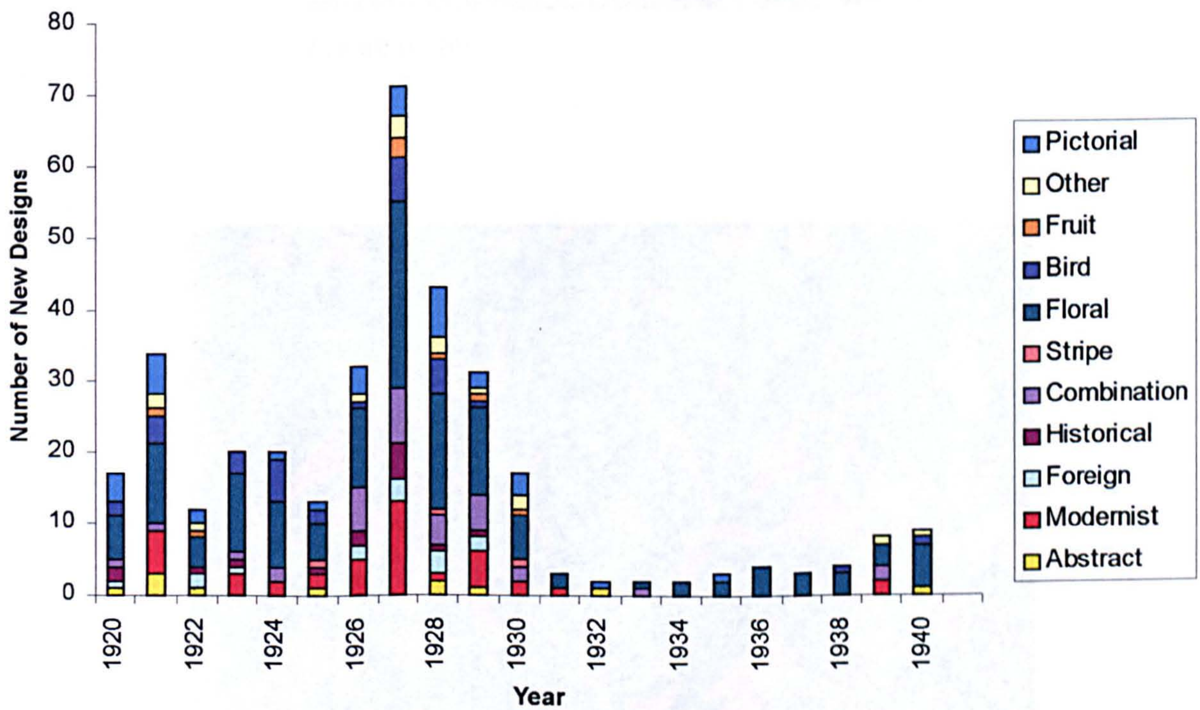

Figure 6.168 Stead McAlpin Ltd: Style Trends in Block Prints, 1920-41.

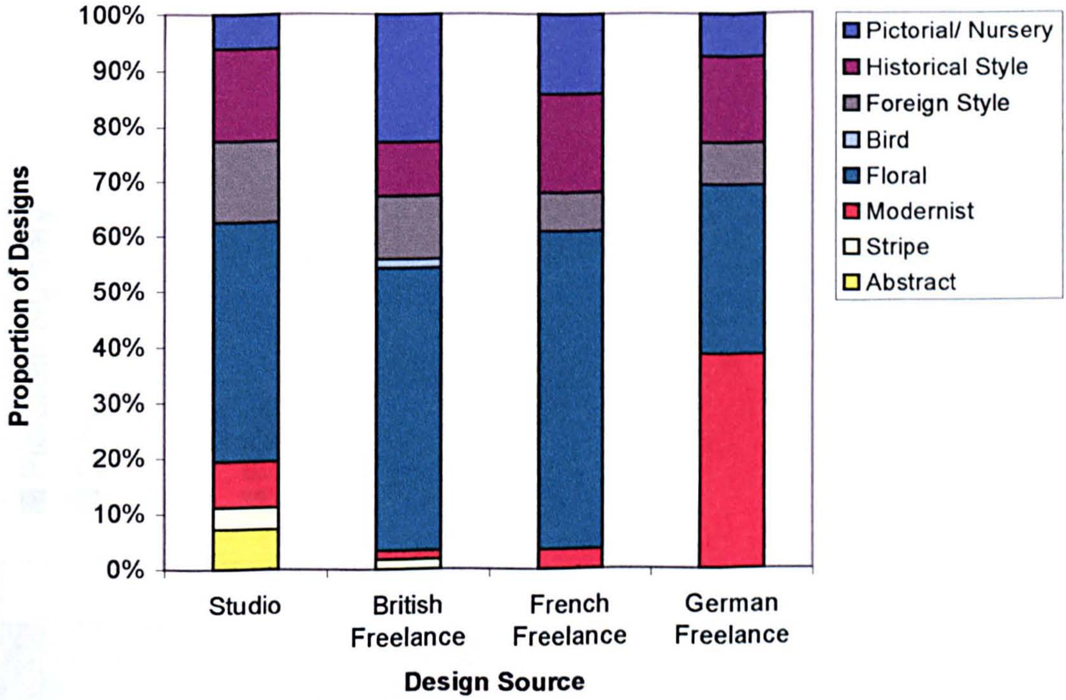

Figure 6.253 MSF Ltd.: Style Analysis of Design Source.

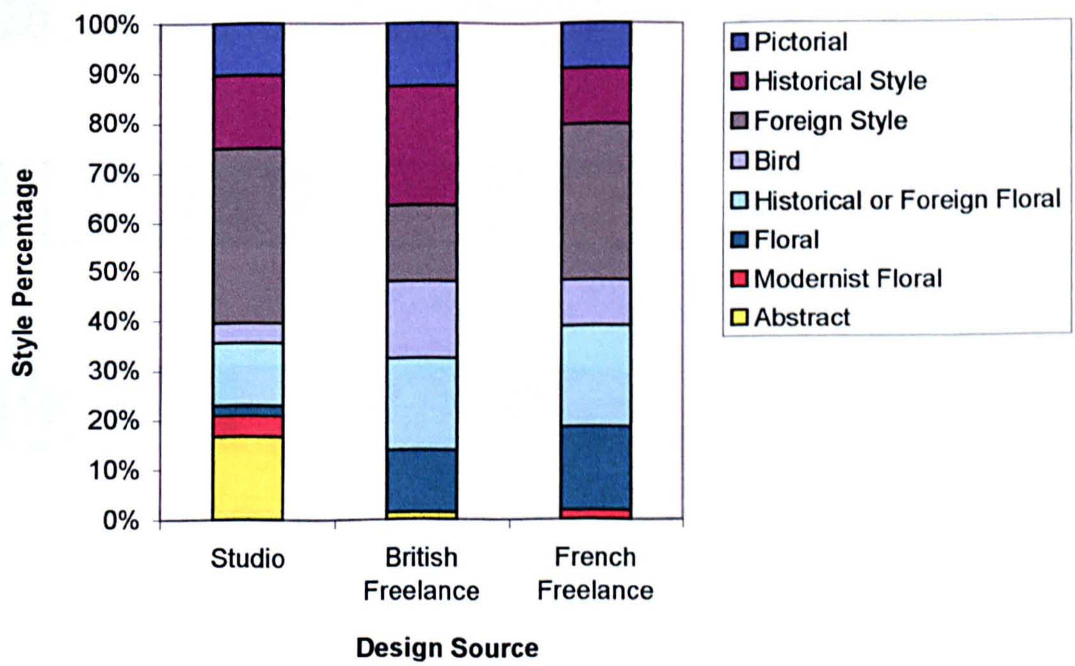

Figure 6.254 A. Morton & Co. Ltd.: Comparative Style Analysis of Design Source.

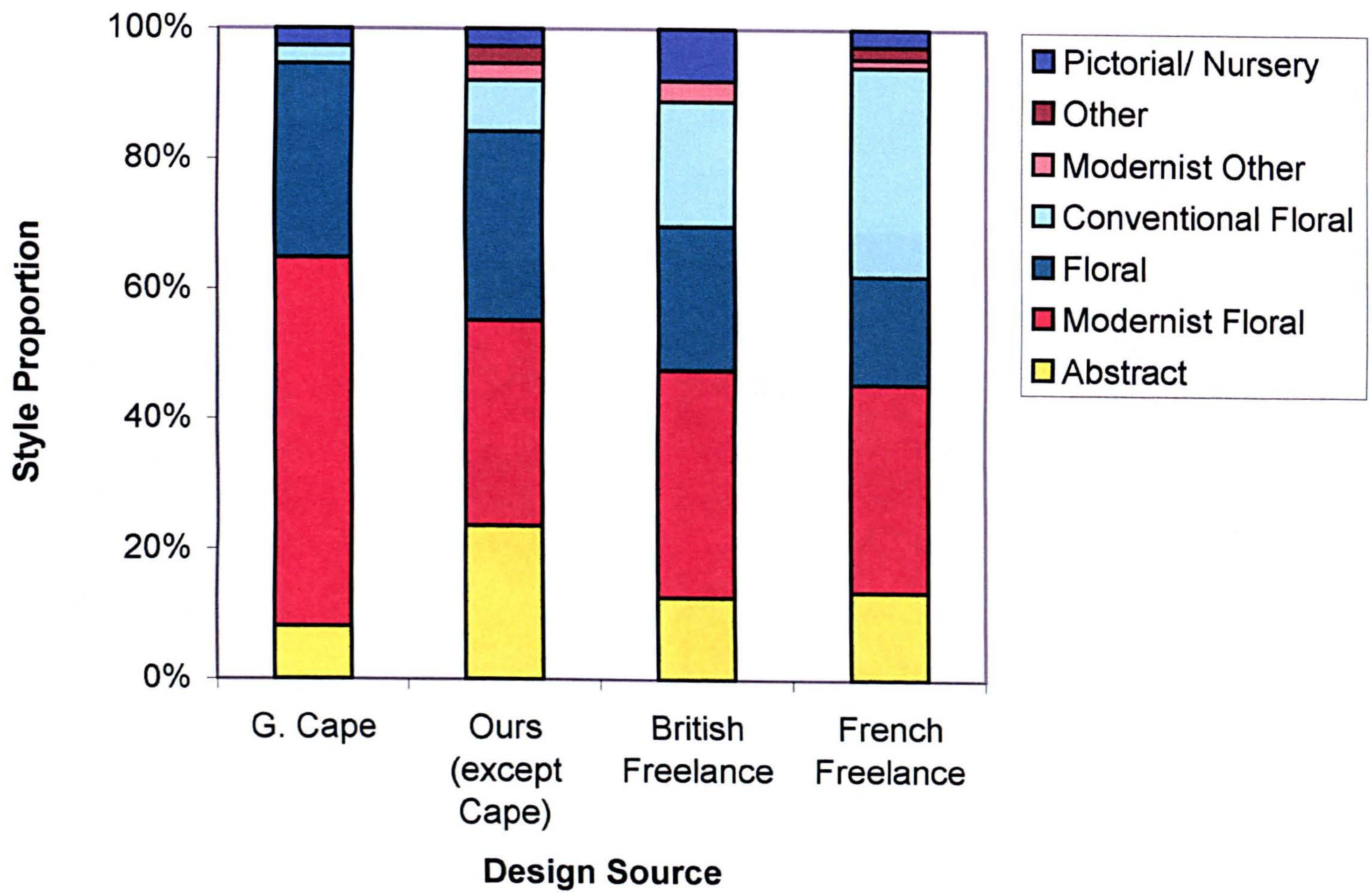

Figure 6.255 Ferguson Bros. Ltd.: Comparative Style Analysis of Design Source (Trial Book, 1937-40).

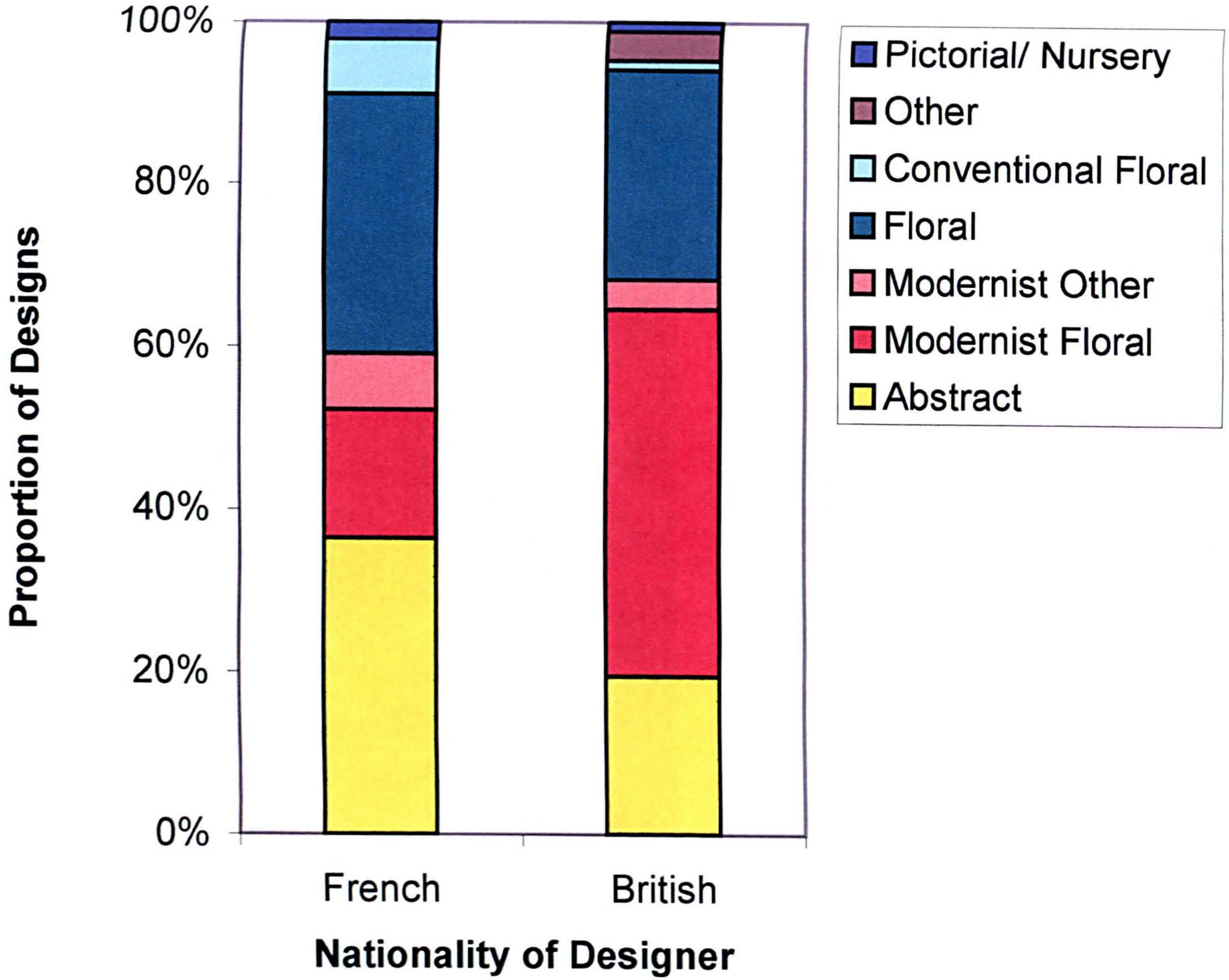

Figure 6.271 Stylistic Analysis of CPA Engraving Book by Design Source, 1934-8.

Appendix

Appendix 1: Textile Industry Organisations

A1.1 The Associations

The Calico Printers' Association (CPA) was formed in 1899 from 59 companies, in an attempt to bring together 85% of the textile printing capacity and stabilised about 1910, with around 60%.[1] The Bradford Dyers' Association (BDA) and Bleachers' Association (BA) dominated their respective industries, with little crossover in specialisation. The three Associations held joint conferences between their directors, to agree on demarcation and other matters, since some companies held by one combine were active in more than one area - or even specialised in another area.[2] For example, the BA owned one printing company (James Hardcastle & Co.) and 'were to some extent involved with' another (Sackville & Swallow Ltd.).[3] An Overlapping Agreement to run for 10 years was agreed, with demarcation rules giving the maximum aggregate annual yardage of the other vertical specialisations allowed to be produced.[4] It also included a penalty clause, in which 30% of the value of any excess over the quota produced was to be paid to the other Association, and a courtesy agreement that the other Associations should be offered any companies, share in companies or machinery relevant to their area if such a company was acquired by any Association. In 1943 the BA stated that they had never attained their maximum permissible yardage and were not likely to, and that it had never been and never would be their policy to compete against the CPA (J. Hardcastle had never cut prices competitively with the CPA).[5] Other topics of discussion during the Joint Conferences were wages agreements (Section 4.5.7; A2.2.2.1); a Closed Works Scheme and other strategy to rationalise the industry (Section 5.3.3); a combined effort to promote research into Artificial Silks (Section 5.4.2.2); and possible joint ventures or shared investment in works abroad (Section 5.3.6). The CPA also built partnerships with other parties: an agreement to develop a Works in India as a joint venture with Steiner and the United Turkey Red Co. Ltd. was discussed during 1920 and drafted in December. However, the offer by the Wallpaper Manufacturers Association to tie out

[1] Turnbull, G. *A History of the Calico Printing Industry of Great Britain*, J. Sherratt & Son, 1951, p332.
[2] M75/ Minutes of Joint Conferences of the CPA, BDA and BA.
[3] M75/ Minutes of the Board of Directors of Mettur Industries Ltd., November 1943.
[4] M75/ Minutes of the Joint Conferences between the Directors of the CPA, BDA and BA, 14/7/30.
[5] M75/ Minutes of the Board of Directors of Mettur Industries Ltd., November 1943.

works sold from calico printing, in return for a similar undertaking for wallpaper manufacture, was refused.[6]

A1.2 The Federation of Calico Printers

The Federation was formed as a representative body to promote common interests in the calico printing trade and to act as the negotiating body for the trade with unions on labour issues. In this latter function it replaced the Society of Master Calico Printers, which was formally dissolved on 29th June 1922 and its remaining funds of £54 15s 10d transferred to the Federation. Its Objects were:

> 'a) To promote interests common to the trade, especially with reference to legislation and to difficulties in the general conduct of the business, such as those relating to the ownership of patterns, the lengths and widths of pieces, excessive claims, conditions of trading and generally all relations with customers, to make regulations to this end, to make agreements with other bodies to the same end, to fix minimum prices, etc.'[7]

The second Object of the Federation was:

> 'To deal with all matters appertaining to questions arising out of or connected with the relationship between members and their workpeople, and amongst other things in so doing to give mutual support and co-operation and if possible to bring about agreement between members and the workpeople's unions under which strikes and lock-outs may be avoided and the settlement of trade disputes by arbitration may be promoted, and, where necessary, to protect the interests of members by defending those interests against detrimental action by workpeople or combinations thereof seeking by strikes or other means to impose unduly restrictive or unreasonable conditions upon the trade.'

The other sections of the Objects give intent to act generally with any other Federation of Association of employers engaged in the bleaching, dyeing, calico printing and finishing industries and to become a member of the Allied Association of Bleachers, Dyers, Calico Printers and Finishers.

[6] M75/ Directors' Minute Book No. 6., 6/1/20.
[7] M75/ 1922-28/ 19.6 Rules of the Federation of Calico Printers.

Membership consisted of firms possessing print works. However, in the 1925 List of Members, there were only 42 members of the Federation out of a total of 136 calico printing companies active in this period.[8] Not only did the Federation cover less than a third of the firms in the industry, but a number of significant entrepreneurial companies who regularly registered designs were not members. These include G.P. & J. Baker Ltd., Joseph Bridge & Co. Ltd., Ferguson Bros. Ltd., Firth & Sons Ltd., W. Foxton Ltd., Know Mill Printing Co. Ltd., Kosloris, Liberty & Co. Ltd., Logan Muckelt & Co. Ltd., Morton Sundour Fabrics Ltd., Ramsden Wood Block Co. Ltd., Sanderson Ltd./ Eton Rural Fabrics and Simpson & Godlee Ltd.. Warner & Sons Ltd. were a manufacturing company only at this date. At a meeting of the FCP and outside printers on the 1st January 1935, five printers agreed to join. The UTR, whose representative was on the FCP State of Trade Committee, noted triumphantly that 'we now have 97-8% of the trade behind us.'[9]

Interests common to the trade were served by closing works to reduce the volume of production and competition. In November 1918 Wilson's Works were bought by Mr Dixon (of the CPA?) for FCP for £8300. The CPA bought machinery and copper rollers and the works closed. On 14th September 1920, the CPA Minutes note that the Federation is buying outside engravers, and that they will contribute to this. Political action is indicated by the recommendation for members to write to their MPs, supporting Clause 24 of the Rating and Valuation Bill.[10] A uniform system of costings was discussed in 1920.[11] Regulation of the conditions of trading occurred with an Indian Contract, in June 1922. The Contract was to be used as a uniform acceptance form for commissioned Indian business within the Federation, as insurance against force majeure. It was also available for other markets where guaranteed delivery was required by a certain date. However, no merchants had accepted such a contract for other markets. It was developed as an extreme measure, since if applied to all markets the cost of production would be greatly increased by the level of insurance required.

[8] Current total of such companies from database: sources from which compiled given in Section 1.2.
[9] UGD 13/ 5/ 7 Directors' Minute Book, 1930-36, 12/3/35.
[10] DB 110/ 228 Minute Book of Directors' Meetings, 1919-28, 19/11/25: Note of letters to Carlisle and North Cumberland MPs, as recommended by the FCP.
[11] M75/ Directors' Minute Book No. 6., 23/3/20.

Minimum prices for particular styles, particularly the bulk cheaper types, were agreed by the companies on the FCP Minimum Price Committee. Specialist associations of printers, established in 1915-6, had their own price lists. These affiliated bodies included the Indigo Printers' Association (last minute recorded in April 1931), the Flannelette Printers' Association (final minute March 1929), the Wide Split Printers' Society (final minute November 1928) and the Aniline Black and Tannic Discharges Section (final minute July 1928).[12] They all moved into the FCP building at 30 Spring Gardens, Manchester in 1917, but continued to be responsible for their own sections of the trade, becoming specialist Price Committees in July 1922. Some prices were fixed by Convention, depending on the particular trade involved. However, in times of intense financial pressure, these rates were disregarded by some companies. Those calico printers who were not members of the FCP caused it some problems by undercutting the general rate. For example, the UTR (a member of the FCP) suffered from keeping to the rates agreed in the 1920s. In December 1924, they noted competitive underpricing of shadowettes: 'cutting of prices in this new style taking place . . . Davis & Luke most guilty of cutting the rate '.[13] However, each company set its own price, at or above the FCP minimum, as was economically feasible in their works. The UTR frequently note in the minutes of their meetings of Directors and Heads of Departments that they are unable to get business due to the lower prices of other printers. For example, in April 1922, the D Department Head commented that 'There is no market in Home Trade for Cretonnes, due to the low basis of value, and these customers can buy at 1d [per yard] less than ours.'[14] This was a very serious difference, since usually prices were cut by fractions of a penny per yard: an art silks trial order was taken in January 1931 at $1^1/_4$d per yard, the same price as their competitors, although their 'Works Price' was $1^1/_2$d per yard. At the UTR, different departments took the orders and gave them to particular works, which priced different styles subject to their own costs. In this case, a style refers to the number and type of colours (whether using Turkey Red, Alizarine dyes, etc.), finishing process and fabric (art silk, flannelettes, shirting, cretonne) and broad cultural or type category (khanga, sarrie, scarf, handkerchief). The maximum concessions allowed on their basis price by

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[12] B14/ 6/ 2/ 1 Minute Books of each Association and the FCP.
[13] UGD 13/ 5/ 6 Directors' Minute Book, 1920-30, 12/24.
[14] Ibid., 12/4/22.

the CPA were stated in 1928: 20% for mercerising, 10% on artificial silks and 7.5% on all other styles.[15]

Co-operation with other Associations and Federations is demonstrated by negotiations with the Federation of Engravers and the Association of Master Engravers (an employers organisation, including three more companies than the Federation). Legal advice was given on a proposal for an arrangement whereby the Federation of Engravers would refuse to work for calico printers who were not members of the Federation.[16] Such a severe restriction of trade would be an unenforceable contract and any agreement would clearly be on uncertain legal ground: combination for the purpose of protecting trade is allowable but if for injuring another party it is illegal. A Trade Agreement was also reached with the Flat Dyed Rayon Group and the Rayon Crepe Group 'to allow members to retain relative proportions of the total trade and prevent the pernicious and ruinous price cutting in the trades which would follow in the absence of any such agreement.'[17]

The Lining Printers' Association – which regulated the price for printed linings – appears to have been independent of the FCP. The CPA informed the Irish Dyers and Finishers Association in 1934 that 'we as members adhere strictly to the conditions laid down.'[18]

A1.3 Dyeing Price Control Mechanisms

Attempts to construct dyeing rates price agreements became common in the 1930s, to prevent severe price-cutting under pressure of the depression and export market reduction. However, price lists of the Piece Dyers' Federation (est. Feb. 1909) were abandoned between 1930 and 1933. The Irish Dyers and Finishers Association claimed to control the price for dyeing linings and complained in 1934 that the CPA were engaging in severe price-cutting of dyed silesias and jeanettes, goods that were

[15] M75/ 1922-8/ 19.6 FCP Minimum Price Committee memorandum, 20/12/28.
[16] Ibid., Letter from Slater, Heelis & Co., 8/6/26.
[17] GD 326/ 228 Directors' Minute Book 1935-40, 20/12/40.
[18] M75/ 1929-39/ 75, 22/1/34.

confined entirely to the lining trade.[19] An Artificial Silk Dyers' Association was formed in 1933 but was unable to maintain minimum prices and collapsed and a price maintenance understanding among viscose twill dyers was agreed in 1936 but broke down in 1937. The Dyers' Federation accepted the principal of increasing discounts for quantity, in conference with the merchants. These were gentlemen's agreements, to prevent firms selling below the cost of production, reinforced in 1937 by fines for defaulters. The Cotton Dyers established a grade price scheme in 1939, which was successful in maintaining post-war prices.[20] Informal price agreements between the BDA and CPA also appear to have existed in the later 1930s, with the collapse of other dye agreements: in 1939, a minimum price for mercerising, dyeing and showerproofing cotton poplins in various colours was noted and the BDA informed the CPA that prices for dyeing, finishing and printing would be increased due to rising costs.[21]

A1.4 Allied Association of Bleachers, Dyers, Calico Printers and Finishers

This Association was formed in 1923 as an employers' organisation and considered the industry's approach to wages, tariffs, issues of faulty cloth and commercial matters.[22] It was also involved in a range of activities to represent the industry. In 1937-8, a delegation was sent to India to discuss a trade agreement on the import of Lancashire textiles and export of Indian cotton. Directly political activities in that year included: application to the Import Duties Advisory Committee for the free entry of crystal gum used in textile printing; successful objection to a proposed rise in import duty on zinc sheets used for engraving and successful lobbying of members of Parliament for the rejection of a Workmen's Compensation Bill and an Employers Liability (Common Employment) Bill. Members of the Association were: the FCP, the Yorkshire branches of the BDA, the Employers' Federation of Bleachers, the Employers' Federation of Dyers and Finishers, the Employers' Federation of Cotton Yarn Bleachers, Dyers and Sizers, the Yorkshire Master Dyers' Committee and

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[19] Ibid., 20/1/34 and 25/1/34.

[20] Turnbull, G *A History of the Calico Printing Industry of Great Britain*, J. Sherratt & Son, 1951, pp382-3.

[21] M75/ 1929-39/ 75, 29/4/39 and 16/9/39.

[22] M75/ 1929-39/ 4: The committees were the Main Committee, the Wages Committee (30 members), the Commercial Committee (9 members), the Finance Committee, the Faulty Cloth Committee (11 members) and the Tariffs Committee (18 members).

individual companies. Calico printing firms were well represented, with seven print companies on the Main Committee in 1938 and the position of Secretary of the Association taken by Mr Dennis Midwood, of Irkdale Printing Co.[23] The political influence of the Allied Association was extended further by its membership of the National Confederation of Employers' Organisations (this included employers' federations for 46 industries, or 60% of the industrial population).[24] The National Confederation had a role in advising Government on labour and other issues, sitting on eleven Government Committees in 1938.[25]

A1.5 Furnishing Textiles Manufacturers' Association

The furnishing textiles industry was separately represented by the Furnishing Textiles Manufacturers' Association, which was formed in January 1925. It was stated to represent approximately 85% of manufacturers of furnishing textiles in 1926, when the organisation applied to the Board of Trade for the industry to be included under the Safeguarding of Industries Act. The objects of this Association were

> 'To promote and protect the Furnishing Textile Industry in the United Kingdom, and generally to watch over the interests of manufacturers. To take such steps as the Association may deem necessary, and as may appear to be for the benefit of manufacturers, and to give advice and render assistance to Members of the Association. To assist any Member who may be engaged in enforcing any principle of the Association calculated to be for the benefit of the Furnishing Textile Trade or in resisting any action or proposal deemed by the Association to be inimicable to the best interests of the Furnishing Textile Trade.'[26]

The political role indicated contrasts with the price-setting function of the Federation of Calico Printers. The heavy concentration on manufacturers given in their aims is reinforced by the membership list, which had 17 members, all manufacturing companies producing tapestries, damasks, brocades, moquettes, velvets, velours and pile mats. The list includes Courtaulds Ltd., Fur Fabric Co. Ltd., John Brownhill & Co. Ltd. and H.C. McCrea & Co. Ltd. (both regular registrators of designs), Lister &

[23] Ibid. The CPA, the UTR, Turnbull & Stockdale Ltd., F. Steiner & Co. Ltd., Mark Fletcher & Sons Ltd., Irwell Springs Printing Co. Ltd., Alex Drew & Sons Ltd. were on the Main Committee.
[24] Mr J.L. Edmondson (Secretary of the FCP) and Mr W. Scholes (from the Bleachers' Association Ltd.) acted as the representatives of the Allied Association.
[25] Ibid., p32.
[26] BT 55/ 94/ 175.

Co. Ltd. and T.F. Firth & Sons Ltd. (both of which exhibited under dress and furnishing fabric sections at the 1933 British Industries Fair).

A **British Furnishing Textile Manufacturers Federation** existed in 1935, since the confirmation of price lists are noted in the MSF minute book.[27] A Code of Trading Practice was finalised in September 1937.[28] Morton Sundour Fabrics Ltd. consulted with G.P. & J. Baker and Turnbull & Stockdale Ltd. to encourage a broad adoption of the Code, inferring a wider membership and activity than the purely manufacturer-based organisation indicated by the Association. E.W. Goodale, managing director of Warners from 1930, is stated to have been the President of this Federation, in the Warners centenary book.[29]

Other manufacturing textile associations existed, of which print companies were members. An example is the Manchester and Glasgow Association of Handkerchief Manufacturers, from which the CPA resigned in 1922.[30]

A1.6 Government

The Board of Trade had an active role beyond its data collection activities in the Census of Production. Direct intervention in trade conditions with the imposition of tariffs and duties at home and in negotiation with colonial authorities was combined with the encouragement of new industries and promotion of design as an aid to economic recovery (Section 5.2). The Department of Overseas Trade produced annual reports on trade conditions in export markets including trade and price figures and other statistics, distributed information on contracts available, demand for goods, suitable agents and importers and provided a network of local officers available throughout the world to advise companies.[31] They also organised the British Industries Fairs, to bring buyers in touch with British producers, and arranged trade missions to other countries. Other devices, such as Export Credit Department's

[27] GD 326/ 228 Directors' Minute Book 1935-40, 25/11/35.
[28] Ibid., 14/9/37.
[29] Bury, H. *A Choice of Design, 1850-1980: Fabrics by Warner & Sons Ltd.*, Warner & Sons Ltd., 1981.
[30] M75/ 1922-8/ 19.2.

Scheme, were also used to support the industry and develop exports. **The British Trade Corporation** was used as a reliable organisation with which to bank overseas.

The **British Cotton Industry Research Association** was formed in 1919, with a headquarters at the Shirley Institute in Manchester and funded by grants from Government and the trustees of the Cotton Trade War Memorial Fund. It had 80-90 research staff, engaged in 'fundamental research', 'relating to the character of the raw material and to all stages of manufacture including the finishing processes.'[32] A Joint Standing Committee on Industry and Research of the Research Association was formed in 1924, following a conference arranged between representatives of the cotton industry and Local Education Authorities.[33] The **Joint Committee of Cotton Trade Organisations** (the JCCTO) was established in April 1925 to consider action in response to the crisis in the industry, and was linked to the Board of Trade, but included the Associations, Federations and other organisations of the cotton industry. Price and import licensing of dye chemicals was controlled by the Colour Users Committee and Licensing Committee of the Board of Trade.[34] It was supported by the **Cotton Trade Statistics Bureau,** established in 1927 by the Board of Trade at the Manchester Chamber of Commerce and also partly funded by grants from the Cotton Trade War Memorial Fund.[35]

Further industry organisations involved in research included the **Research Fund of the Society of Dyers and Colourists** (to which the CPA donated £100 in March 1920[36]). In November 1920, a development of this idea by Mr Kenneth Lee and Professor Green, in the **Colour Users Committee**, proposed the establishment of research organisations by dyestuffs manufacturers, of which a proportion of their

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[31] 'Government Help in Overseas Markets', *The Drapers' Record*, 28/2/31.
[32] BT 55/ 5 Sub-Committee on the Cotton Industry, Committee of Civil Research, CR (CI) 2 1929, *Memorandum on the Organisation of the British Cotton Industry*, point 31.
[33] *Design and the Cotton Industry*, Board of Education Pamphlet No. 75, Industry Series No. 8, HM Stationary Office, 1929, p45.
[34] Activities of these committees, and the role of the CPA as a member of them, are frequently noted in M75/ Directors' Minute Books.
[35] Aims of the bureau are stated in BT 70 15/ 1183/ 27 and the establishment noted in BT 70 14/ 261/ 27.
[36] M75/ Directors' Minute Book No. 6, 30/3/20.

costs would be met by Government.[37] A committee of prominent Manchester Cotton Trade representatives was formed, with Mr H. Broadbent as Secretary, to consider the proposal. In February 1921, the Colour Users Association decided to form into a limited company (allotting shares among its members) in order to provide capital for investment, secure annual income, etc.[38]

A1.7 Distribution and Merchanting Organisations

Manchester Chamber of Commerce was a locus of co-ordination, information and debate within the cotton industry, and acted as a political representation of the cotton trade as a whole (since Manchester was the centre of the industry, in which the Royal Exchange occurred). It was dominated by export merchants, though membership by calico print companies and manufacturers was also very extensive. Reports on markets and foreign competition were sponsored by the Chamber, and committees and associations established for pooling information and agreeing joint action. The **Eastern Textile Association** (a vertical grouping of manufacturers, finishers and merchants who were selling to the Far East) was one of a number of such organisations linked to the Chamber. The **Levant Company** 'was established to replace the existing Manchester merchants by a thoroughly British company, whose object it was more to push British trade than to pay dividends.'[39] They had 23 sub-branches in Turkey, and representatives in Syria, Palestine, Bulgaria and South Russia. A Federation of Merchants was established in December 1935, 'in order to withstand the pressure of wholesalers and makers-up and to standardise matters of general interest such as rates of discount allowed and carriage charges.'[40]

The Wholesale Furnishing Textile Association was a specialist organisation for merchants active in the furnishing textiles sector, although it did not include all the distributing agencies for the sector.[41] The **Wholesale Textile Association** was the intermediary between producer and retailer in the dress fabric field. A **Buyers Association of Great Britain** was also active, giving evidence to the Council for Art

[37] Ibid., 16/11/20
[38] Ibid., 15/2/21.
[39] M75/ Directors' Minute Book No. 5, 28/1/19.
[40] M75/ Directors' Minute Book No. 13, 10/12/35.
[41] BT 55/ 94/ 175.

and Industry 'Inquiry into Design in the Distributive Trades' in 1939.[42] Department stores co-ordinated their statistical and other information, scientific management techniques and approaches to labour and other political issues through the **Retail Distributors' Association** (est. 1920).[43] Other relevant retail organisations were the **Drapers' Chamber of Trade of Great Britain and Ireland** and the **National Federation of House Furnishers.**[44]

[42] PRO BT 57/ 25, 11/5/39.
[43] Lancaster, B., op. cit., pp116-118.
[44] Summary of evidence to the Council for Art and Industry 'Inquiry into Design in the Distributive Trades,' PRO BT 57/ 24 and 25.

Appendix 2: Economic Context

A2.1 National Economic Conditions

A2.1.1 British National Economic Conditions

Comparison of the Gross Trading Profits of Companies and Gross National Product (Figures A2.1-2) gives a clear outline of the health of the economy over the period.[45] A drastic fall in trade profit occurred in April 1921, with the collapse of the post-war boom in prices and coal strike. The following depression is shown in the general reduction in GNP from 1920 to 1923. A small dip in 1926 indicates the coal strike and (brief) General Strike. The 1929–32 fall should be put in the context of an international depression, in which the value of world trade fell by 1933 to 35% of the 1929 level.[46] A strong recovery is shown from 1934-8 in GNP and from 1934-37 in GTP, with a downturn in trade evident by 1938. The late 1930s trade profit (1934-8) is higher than at any time in the inter-war period since the 1920 boom. Improving productivity of the economy is indicated by the index of industrial production per head, which rose from 100 in 1911-13 to 120 in 1927-9 and 156 in 1936-8.[47]

A2.1.2 Comparative Analysis of the Economic Position of Other Nations

Post-war inflation and economic disruption occurred throughout Europe, with a particular intensity in the defeated Central Powers of Austria and Hungary.[48] An extreme condition of hyper-inflation in Germany during 1923 followed default on the reparations, occupation of the Ruhr by French forces and the collapse of international confidence in the Mark as a currency. Stabilisation of the currency was established in November 1923, with the issue of the 'Rentenmark', a theoretical mortgage on all German land and property.[49] The 1929 stock exchange crash in New York had an international effect. A comparison of the recovery from depression of the USA, France, Germany and Britain is given in Figure A2.3, indicating the depth of the economic collapse in the United States.[50] It was also particularly severe in Germany,

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[45] Feinstein, C. *National Income, Expenditure and Output of the U.K., 1855-1965*, Cambridge University Press, 1972.
[46] Glynn, S. and Oxborrow, J. *Interwar Britain: a Social and Economic History*, George Allen & Unwin Ltd., 1976, p60.
[47] Pollard, S. 'Industry in Transition', in Thomas, M.W. (ed.), *A Survey of English Economic History*, Blackie & Son Ltd., 1957, p490.

where American investment had been supporting the reparations to Europe (reduced under the Dawes plan in 1924) and modernising German industry.[51] The improvement of the USA economy compared to France from 1933 may be affected by the earlier date at which it came off the gold standard (1933, while France followed in 1936).[52]

A2.2 Employment and Income

A2.2.1 Salary and Wage Levels

There was a substantial rise in incomes of those in work from the pre-war level to the late 1930s, with the rise proportionately greater for those on lower incomes. Incomes per worker rose from an average of 23s per week in 1913/4 to 53s 3d per week in 1938.[53] Taking the increase in cost of living into account, this leaves an average rise in income of 50% (Table A2.1).

	Males (21 & over)	Females (18 & over)	All workers
weekly earnings in 1913-14	32s	13s 6d	23s
weekly earnings in 1935	67s 7d	31s 1d	53s 2d
weekly earnings in Oct 1938	69s	32s 6d	53s 3d
% increase 1913-1938	116%	141%	132%
% increase allowing for increase in cost of living	40%	55%	50%

However, there is a serious differential between average earnings of men and women, with men earning more than double that of female workers. Part of this difference is the skill level of the jobs available to men and women at this time, but there were also differential rates for the same jobs. The average full time earnings over 1919-29 for

[48] Pollard, S. and Holmes, C. (eds.) *Documents of European History: Vol. 3, The End of the Old Europe, 1914-1939*, Edward Arnold, 1973, p257.
[49] Ibid., p258.
[50] Data from BT 70/ 55/ s959/ 1936.
[51] Pollard, S. and Holmes, C. (eds.) op. cit., p260.
[52] Aldcroft, D.H. *The European Economy 1914-1990*, Routledge, 1993, pp81-2.

men was 58.9s per week, while women only received an average of 28.4s.[54] This wage level fell slightly over the 1930s, with male earnings at 57.3s in 1931 and 56.6 in 1935 and female at 28s in 1931 and 27.2 in 1935. A TUC survey of Slough in 1936 shows that virtually all the women employed earned 7d to 8d per hour (28-32s for a 48 hour week). The men earned between 10d and 1s per hour (40-48s). This gives a local average of £75 per year female wage and £110 male, while national averages were £85 female and £144 male.[55] However, there seems to be a small reduction in the differential over the inter-war period, from 42% of male earnings in 1913 to 47% in 1938.

Guy Routh gives examples of the change in income for upper and lower middle class workers, showing a greater salary increase for lower level qualifications. For example, a doctor (GP) in 1913-4 earned just under £400/yr, but in 1935-7 this had increased to £1,000/yr (a rise of 250%), while male bank clerks in 1911-13 earned £142/yr and in 1935 £368/yr (259%).[56] This would be equivalent to a weekly wage of about 370s for the doctor and 136s for the clerk, assuming that weekly wage earners were paid for 54 weeks/ year. A less consistent scale of professional and class income increase is evident in the rises noted by Newman and Foster of 13% for solicitors (from £1,096 in 1920 to £1,238 in 1935), 45% for general practitioners (£756-£1,094) and 26% for male clerical workers (£152-192), while the income of teachers shows a decrease from £500 in 1920 and 1923 to £480 from 1925.[57] The main rise in incomes noted by More occurred in the immediate post-war period, as shown in Section 4.5.7. In general, the data on weekly wages for skilled and unskilled workers given by Newman and Foster indicates that a fairly stable level was maintained from 1924-38, with a decrease for some in the 1930s depression (particularly in the building industry), which had been recovered by 1938 (Figure A2.4).[58] Cotton weaver rates follow the latter pattern, showing a fall in wages from 36s 10d in 1925 to 32s 6d in 1930 and 30s 9d in 1931 and rising to 36s 6d by 1937. The exception is the fitter,

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[53] More, C. *The Industrial Age: Economy and Society in Britain 1750-1985*, Longman, 1989.
[54] Newman, O. & Foster, A. *The Value of a Pound: Prices and Incomes in Britain, 1900-1993*, Gale Research International Ltd., 1995, pp50 and 77.
[55] Savage, M. 'Trade Unionism, sex segregation and the State: Women's employment in the 'new industries' in inter-war Britain', Social History, Vol. 13, No.2, May 1988, pp208-230.
[56] Routh, G. *Occupation and Pay in Great Britain 1906-79*, MacMillan, 1980, p.120.
[57] Newman, O. & Foster, A. op. cit.
[58] Ibid.

which shows a sudden increase in 1935-7. D.C. Coleman gives a contradictory example of falling wages for rayon spinners at Courtaulds, who earned 85s/ week in 1924 and in 75s 6.5d 1936.[59] An indication of the wages of shop workers is given by an analysis of staff wages in the John Lewis Partnership department stores: 45% of the workforce earned £3 (60s) per week or more in 1931 and 25% over £4.[60] Comparative examples of the wages/ salaries of designers are given in Chapter 3. In 1936, the average manual wage was around £3.00/week (60s), while for a South Wales miner with three children, the average weekly wage would be £2.25 (45s).[61] Unemployment insurance benefit for such a family with three children in 1936 would be £1.75 (35s: 17s for a man, 9s his wife and 3s for each child): this compares with the equivalent Rowntree human needs level in 1936 for employed of £2.68 and £2.52 for unemployed. In 1931-35 a lower level of unemployment benefit or 'transitional payments' (subject to a means test) was paid, which would have resulted in 29s 3d per week for a family with three children.[62]

Further comparative examples of the wage or salary rates for specific jobs are shown in Ferguson Bros. Ltd. minutes. A London typist's wages were raised from £2/ week to £2 5s in 1929 (45s). In 1933, the salary of a new Works Engineer was £400/yr rising to £415 after 6 months and for a Chief Costing Clerk £200/yr, rising to £225 after 12 months. Managers' salaries include £300/ year for Assistant Weaving Managers in 1934/5, an Inside Cotton Mill Manager at £400, rising to £450 in 12 months in 1933, and an Under-manager in the Dyeing and Weaving Departments at £500/ year in 1936. Sales agents' salaries varied significantly, but they were generally highly paid: in 1928 the agent for India & Burma was paid £400/ year while Mr Rogers, the agent for Scandinavia, received £500 + 1% commission (minimum commission £250/yr); in 1930 the home agents' salaries went from a minimum £125 + 2.5% commission (for an assistant agent under his father's supervision) to £750 for A. Sanders. Directors' fees were £400/yr for Mr R.S. Chance (Vice-Chairman) and £300

[59] Coleman, D.C *Courtaulds: An Economic and Social History, Vol. II: Rayon*, Oxford University Press, 1969, p434.
[60] Census of 2313 staff, published in *Draper's Record*, 6/2/32: given in Lancaster, B. *The Department Store: a Social History*, Leicester University Press, 1995, p150.
[61] Glynn, S. and Oxborrow, J. *Interwar Britain: a Social and Economic History*, George Allen & Unwin Ltd., 1976, p43.
[62] Mowat, C.L. *Britain Between the Wars, 1918-1940*, Methuen & Co., 1968 (first published 1955), p483.

for Mr S.T. Richardson in 1926. However, most directors also held major holdings of shares, and had Directors' contingent bonuses on profits.

A2.2.2 Negotiations with Unions

During the post-war rise in prices, there was a demand from the Union in 1919. In a meeting of the Executive Committee of the Warehouse Employers Federation[63], it was agreed that an advance of 20-25% only on the present minimum scale would be considered. On the 13th January 1920, the CPA agreed that the minimum scale for general workers would be raised by 20%, making a total of 60s per week. Some of the piece workers and Schreiner calender men did not accept this, and gave in their notice due to insufficient wages. The offer made was finalised at 62/6 per week with the Warehouse Workers, but only to last for 6 months, on the insistence of the Union. In June, the Warehouse Workers demanded an increase to 80s per week, and received an offer of 72/6. A sliding scale was agreed with the National Union of Bleachers, Dyers and Textile Workers for Yorkshire on 5th July 1920, following the Lancashire arrangement in November 1919.[64] Following the sudden increase in the Cost of Living Index from 132% to 150% in June, the Allied Trades then asked for the automatic advance due to be dated from 1st July 1920 rather than 1st August.[65] This was refused. In August, the Society of Master Calico Printers offered alternative options of an increase of 110% on the basic wage retaining the flat grant of 20s per week (total 125s per week) or an increase of 155% on the basic wage and the abolishment of the flat grant (total 127/ 6 per week).[66] However, by February 1921 the position was sufficiently altered by the crash that the Warehouse Workers were given a choice of working short-time, reduction in wages or dismissal of staff by the Employers Federation (the Union representatives voted in favour of short-time working).

[63] Noted in M75/ Directors' Minute Book No. 6., 6/1/20.
[64] M75/ 1929-39/ 4: 1938 Annual Report of the Allied Association of Bleachers, Dyers, Printers and Finishers, p10.
[65] M75/ Directors' Minute Book No. 6, 29/6/20.
[66] Ibid., 24/8/20.

Negotiations between the Allied Association of Bleachers, Dyers, Printers and Finishers and unions from January 1923 led to arbitration in 1924. At this time, an extra grant of 2 shillings per week on the basic wage was awarded - known as the Mackenzie award. This was abolished in November 1927, but a new agreement of 2-3 shillings per week for lower paid workers agreed in July 1928.[67] Further difficulties occurred with the Machine Printers' threatening mass resignations in January 1925, leading to arbitration. In December 1927, the CPA/ BDA/ BA Joint Committee decided not to renew the Old Common Agreement between the Labour Unions and Employers Section.

On 6th October 1930, the Joint Federations Conference warned: 'owing to the present state of trade, the time is very near when it will be necessary that there should be some joint move in the direction of a reduction in wages.' By the 20th October, 'It was agreed that some steps should be taken to bring to the notice of the Trades Unions the obstacles which are at present hindering the obtaining of an increased business in Cotton Goods - representatives should bring it up at the next Wages Committee of the Allied Trades and have a friendly meeting with the Officials rather than tender notice to terminate the Agreement.' A new Agreement was finalised on April 30th 1931, making a cut in the cost-of-living wage system (whereby, wages would be reduced by 1% for each 1% drop in the cost-of-living index, rather than only 0.8426%) and a 1% cut in pieceworkers earnings.[68]

Following the low point of 37 reached in the Cost of Living Index in May 1933, the production workers' union applied for a raise in the rates. This and further applications in 1934 and 1935 were also rejected, and the Federation of Unions gave three months notice to terminate the 1932 wage agreement.[69] A strike was narrowly avoided, with a new agreement reached on 19th July 1935. All the unions involved in the finishing trades amalgamated in July 1936, becoming the National Union of Bleachers, Dyers and Textile Workers. An application for the restoration of the 1931 cuts was put forward by this union in October 1937, and finally refused in January

[67] Turnbull, G. *A History of the Calico Printing Industry of Great Britain*, J. Sherratt & Son, 1951, p238.
[68] M75/ 1929-39/ 4, op. cit.

1938, due to the continuing depression in the industry.[70] Three months' notice to terminate the wages agreement was then given by the union, from the end of May.

Another issue that became increasingly contentious was the 'non-union' or closed shop question. The National Union of Bleachers, Dyers and Textile Workers suggested a clause, indicating that employers should have to apply to the Union to supply employees required. If the employees were not considered satisfactory, other persons could be engaged, but they would be required to become members of the union forthwith. All members in arrears would be dealt with by their employer. Some sections of the allied trades accepted the clause apart from the insistence on new employees being forced to join the union, while others objected entirely. The clause was rejected by employers in 1938, but a threat of guerrilla action at those works where union membership was sufficient to stop production was made.[71]

A2.2.3 The Coal Industry

Wage negotiations in the coal industry had a significant effect on printed textile production (see Section 4.5.6). A vote in favour of a coal strike was taken by the Miners Federation in January 1919, but the strike postponed while a commission to investigate the coal industry was established. The Sankey Commission produced a series of reports by miners' representatives, mine-owners and industrialists in March and June 1919: all the June reports recommended nationalisation of the coal royalties and Sir John Sankey's Report recommended State ownership and management of the industry.[72] Labour relations were exacerbated by the failure to implement the nationalisation proposals of the Commission[73], though a wage rise was negotiated on March 29, but further negotiations over an additional increase in June collapsed and a coal strike was finally called on 16 October 1920. The threat of a National Strike (in a sympathy action by railway men and road transport workers) led to the passing of an

[69] Turnbull, G. op. cit., p239.
[70] M75/1929-39/ 4, op. cit., p19.
[71] Ibid., p11.
[72] Mowat, C.L. *Britain Between the Wars, 1918-1940*, Methuen & Co. Ltd., 1955, p33.
[73] Other recommendations, including the 7-hour day, a Miners' Welfare Fund to provide amenities for miners, subsidised by a penny a ton levy, and a system of district committees and area management boards, were instituted in the 1919 Coal Mines Act and 1920 Mining Industry Act. No increase in wages was made, although the industry was still under Government control from the wartime control

Emergency Powers Act, resumption of negotiations, and settlement on the miners' terms.[74] Coal export prices rose very high immediately after the war, as the main foreign competition supplies were unavailable, reaching 115s per ton, while the domestic price was 36s 7d.[75] These profits were used by the Government to support the unprofitable mines, but recovery of continental coalfields, and the effect of German coal, reparations, ended the inflated prices. Severe loss to the Government resulted, and a sudden decontrol bill was passed, giving the mines back to their previous owners on 31 March 1921. A lower level of wages, with local variations on the previous district system, was announced by the mine-owners, and a strike began on 1st April. It ended on 1st July, with wage reductions based on district settlements and no national pool arrangements.

In 1924, a new agreement was made, but worsening trade conditions due to competition from German coal with the end of the Ruhr occupation led to increasing hostility between the mine-owners and miners, in the face of in the reductions in wages and attempts to abolish the minimum wage and newly won seven-hour day.[76] In July 1925, the Government agreed to subsidise wages while a Commission examined the issue. The recommendations of Herbert Samuel and the other Commission members, given in March 1926, of a nationalisation of mineral rights and an abandonment of the minimum wage, were acceptable to neither side. Further discussions by the Government with the opposing sides were unable to prevent a General Strike being called by the TUC on 3rd May. The General Strike was called off on the 12th May, on the agreement by the TUC with a proposal by Samuel for a National Wages Board and industry reorganisation. These proposals were not accepted by the miners, who remained on strike until October/ November, with a gradual tailing off as differing terms and conditions in the various coalfields were accepted.

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measures. Ibid., p35.
[74] Ibid., p42-3.
[75] Ibid., p120.
[76] Ibid., pp290-2.

A2.2.4 Unemployment

A sharp rise in unemployment occurred in 1921, during the economic crash, coal strike and other industrial disruption (Figure A2.5).[77] A general improvement to 1924 followed, with a secondary peak in unemployment in 1926. The severity of the depression in 1930-2 can be seen in the increase in rate of unemployment to 13.1% of the total labour force in 1932.[78] Recovery from depression in 1932 was slow, but by 1937 94% of the men who had lost their jobs between 1929 and 1932 had found work.[79] Unemployment rates are often given for insured workers only, resulting in much higher rates since not all unemployed workers were insured: using this measure of unemployment, the rate was 22.3% in June 1932.[80] Individual trades or industries had widely varying unemployment: comparative figures for individual trades in 1932 and 1937 were: shipbuilding 62% and 24.4% respectively; pig iron 43.8% and 10.7%; coalmining 34.5% and 16.1%; docks, harbours and canals 33.3% and 27.5%; cotton textiles 30.6% and 10.9%.[81] Figures for general engineering (27.4%) and the woollen and worsted industry (26.4%) are quoted by Pollard for June 1932.[82] Unemployment was often concentrated in localities, known as the 'depressed areas', where there had been a dependence on single industries (such as coal mining or shipbuilding) or major companies. There was a long decline in unemployment from the peak in 1932 to 1937, followed by a small rise in 1938, echoing the pattern in National GTP.

Unemployment benefits came in a variety of forms. The Unemployment Insurance Fund, established in 1911, was only available to some trades with cyclical unemployment until 1920, when it was extended to cover a wider range of trades with a structural expectation of fluctuating employment (nearly 12 million people). However, the chronic insolvency of the Fund in the 1920s – since it had been based on a 4.5% unemployment rate, and since the period which could be claimed for was

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[77] Glynn, S. & Oxborrow, J. *Interwar Britain: A Social and Economic History*, Allen & Unwin, 1976, p149.
[78] Ibid.
[79] Mowat, C.L. op. cit.: original source *Men Without Work: a Report made to the Pilgrim Trust*, Cambridge, 1938.
[80] Pollard, S. 'The Social Question', in Thomas, M.W. (ed.), *A Survey of English Economic History*, Blackie & Son Ltd., 1957, p505.
[81] Department of Employment and Productivity, *British Labour Statistics Historical Abstract 1886-1968*, 1971, table 164, given in Glynn, S. and Oxborrow, J., op. cit., p151.
[82] Pollard, S., op. cit.

extended beyond the point where an individual's claims were exhausted – had swelled to a debt of £115 million in 1932.[83] The original strict claim system was reinstated in 1931. Those falling outside its provision then had to take a means test, and were assisted by the local authority using funds provided by central government. Great variation in the local provision and the problem of administration falling on unpaid council members undermined this system, and it was replaced by the Unemployment Insurance Act in 1934. Unemployment Assistance was paid by the State (via an independent Unemployment Assistance Board) to those whose claims to the scheme were exhausted, following a needs test, on uniform national regulations. However, the low national scales of payment initially published provoked widespread protest and a series of demonstrations and hunger marches, and the new system was not introduced until November 1936, with a revised scale of payment.[84] The Poor Law continued to operate in providing minimum subsistence for those not covered by any other system, and was transferred from Boards of Poor Law Guardians to the local authorities in 1929.

[83] Ibid., pp513-4.
[84] Mowat, C.L. op. cit., p472.

A2.2.5 A Comparison of Gender in Employment

Between 1911 and 1931, there was an increase of 14.7% in the employed population (18,354,000 to 21,055,000). [85] This is an increase of 16% in England and Wales for both genders; in Scotland 5% for males and 11% for females. The proportion of women in employment rose between 1911 and 1931, except for those over 65 years old (Table A2.2). The greatest increase was for unmarried women of ages 15-19 and 35-44.

% of women in 'gainful occupation' in 1911 in 1931

Age	Spinsters	Married/ widowed	All		Spinsters	Married/ widowed	All
15-19	70	14	69		77	16	75
20-25	78	13	62		84	19	68
25-34	74	12	34		80	15	36
35-44	66	14	24		73	13	25
45-54	59	16	23		64	13	21
55-64	46	16	20		51	12	18
65-74	26	12	14		25	7	10
75 & over	9	5	6		9	3	4

In 1911, 13.6% of all occupied females were in the textile industry; 9.6% in commerce/ dealing/ finance; 7.3% in professions. By 1931, this had altered to 12.1% in textiles and 8% in the professions.[86] Of the 21 million people employed in 1931, almost 3/4 of women managers, directors and other employers were managing shops, restaurants or boarding houses (Table A2.3).

[85] Abrams, M. *The Condition of the British People, 1911-1945*, Cedric Chivers Ltd., Bath, 1946.
[86] All figures from Abrams, M., ibid.

	Male	Female	Total	% of M	% of F
Employers, Directors and Managers	1,028,000	152,000	1,180,600	6.9	2.4
Operatives (including unemployed)	12,850,000	5,770,800	18,621,600	86.9	92.0
Self-employed	922,000	350,600	1,272,600	6.2	5.6
Totals	14,801,400	6,273,400	21,074,800		

The estimated number of private sector jobs in non-manual labour, excluding shop assistants (in thousands) is shown in Table A2.4[87]:

	Male in 1911	Male in 1931	Female in 1911	Female in 1931	% Female of total in 1911	% Female of total in 1931
manufacturers and agriculture	228	481	51	245	18	34
distribution	117	281	61	207	34	42
professions	224	213	218	181	49	46

The drop in (female) professions is due to an increase of qualified female staff in industry.

In the textile industry, the proportion of female workers was far higher, with 58% by 1931 (Table A2.5).

	Male	Female	Total	F as % of Total
1911 occupations	517,000	656,000	1,173,000	56
1931 occupations	491,000	676,000	1,167,000	58

[87] Ibid.

A2.3 Living Standards

The cost of living index figures published by Board of Trade (Figure A2.6) was the basis on which wage levels were agreed (Section 4.5.7), with scaled payments according to skills linked to the Index.[88]

Changes in the domestic market due to the relative affluence of the consumer, with rising incomes and low food prices for those in work, allowed more discretionary spending on household furnishing. There was an average rise in income of 50% from 1913/4 to 1938 (taking the increase in cost of living into account).[89] Furthermore, although the difference in income between classes remained wide, the proportionate rise was higher for the less skilled.[90] The consumer expenditure table (Figure A2.7) demonstrates the tendency that as income rises, a smaller proportion of it is spent on food (a backward sloping demand curve).[91] Examples of weekly food budgets are given by Deirdre Beddoe: a Mrs N. of Derby (a housewife with an unemployed husband) spent 14s 3d on food for a family of 2 adults and 3 children and 3s on a Clothing Club.92 *Good Housekeeping*, by contrast, recommended 12s 6d to £1 per head per week as adequate for a good diet, in 1931.[93] Food prices also dropped during the depression (from 1929-33), because Britain was a net importer of food (the world's largest importer of raw materials and food). An example of this is given by the MacMillan Report in July 1931: the cost of annual wheat imports had fallen by £30 million from 1929-31 and by £60 million from 1925-31.[94] Falls in expenditure for clothing, alcohol, cars and motorcycles, other goods and services occur during the depression, while there is a stabilisation in the general upward trend of expenditure on durable household goods and tobacco. Richardson gives indices of real consumption spending (in which 1929 = 100), showing that total consumer expenditure fell from 500 to 483 in 1932, then rose to 622 in 1937 and fell in 1938 to 591 (approximately

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88 Cost of Living Index figures given in Turnbull, G., op. cit., p460.
89 More, C. op. cit.
90 Routh, G. op. cit.
91 Data given in Feinstein, C.H. *National Income, Expenditure and Output of the UK, 1855-1965*, Cambridge University Press, 1972.
92 Spring Rice, M. *Working Class Wives*, Virago, 1981, p180: in Beddoe, D. *Back to Home and Duty: Women Between the Wars, 1918-1939*, Pandora, 1989, pp100-101.
93 Braithwaite, B., Walsh, N. & Davies, G. *Ragtime to Wartime: The Best of Good Housekeeping 1922-1937*, Ebury, 1986, p123.
94 Given in Glynn, S. and Oxborrow, J., op. cit., p74.

the 1935 level).[95] This follows the national gross trading profit of companies, which rose steeply from 1932 to 1937 and then fell. A table that includes house decoration (which covers furniture, floor coverings, hardware, electrical goods and textiles) is given by More (Table A2.6).[96] He states that expenditure on house decoration rose mainly due to purchase of the new electrical products available (such as washing machines, vacuum cleaners, radios, etc.).

Table A2.6:

	food	house decoration	clothing	alcohol	tobacco	car/ motor cycle
1913	28	4	10	8	2	0.6
1937	26	6	10	6	4	1
1985	14	7	7	8	3	5

A large scale building programme of council houses during the 1920s and private development of estates in the 1930s altered the domestic environment of many families, encouraging a change in style of furnishing.[97] The new houses tended to be smaller, due to a reduction in the size of families: in 1900 27% of families had five or more children but in 1940 only 9.2%.[98] Of the marriages that took place in 1925, 67% had two or less children.[99]

[95] Richardson, H.W. *Economic Recovery in Britain, 1932-1939*, Weidenfeld & Nicholson, 1967.
[96] More, C. *The Industrial Age: Economy and Society in Britain 1750-1985*, Longman, 1989, p.373.
[97] Richardson, H.W. & Aldcroft, D.H. *Building in the British Economy Between the Wars*, Allen & Unwin, 1968; Glynn, S. and Oxborrow, J., op. cit., pp212-244.
[98] Stevenson, J. *British Society, 1914-45*, Penguin, Harmondsworth, 1984.
[99] Gittins, D. *Fair Sex: Family Size and Structure 1900-1939*, Hutchinson, 1982, p33. The acceptance of contraception as respectable within marriage, due to the campaigns of Dr Marie Stopes, Stella Brown and others, and establishment of birth control clinics (under 20 in 1921-31, funded by birth control organisations, to about 60 in 1931-41, with local government assistance) is discussed in Beddoe, D., op. cit, pp104-109.

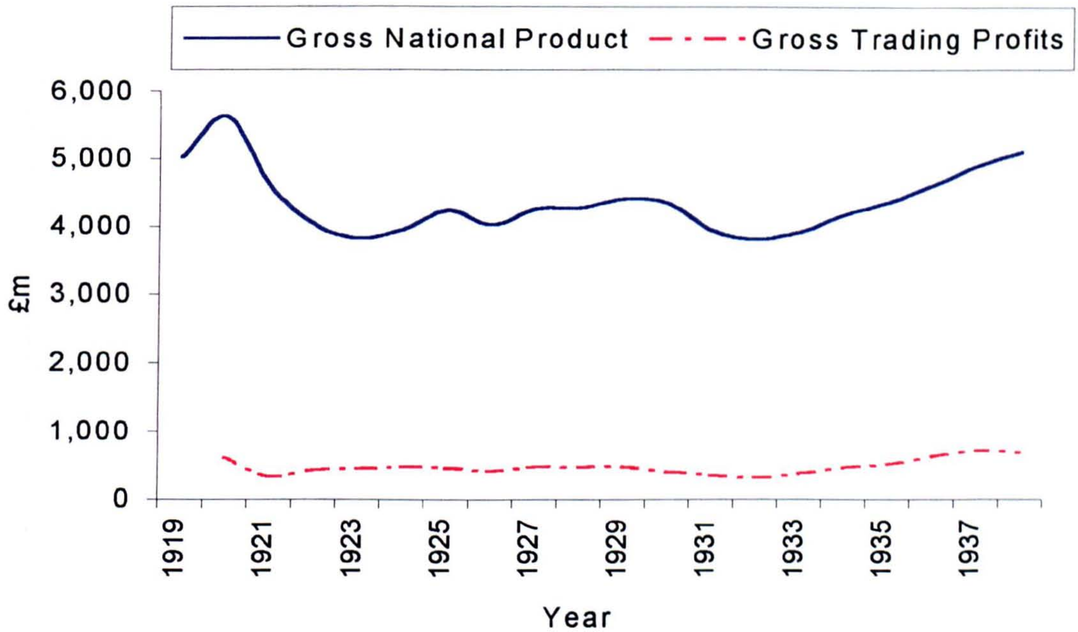

Figure A2.1 National Economic Product, shown with a Comparison of GNP and GTP, 1919-38.

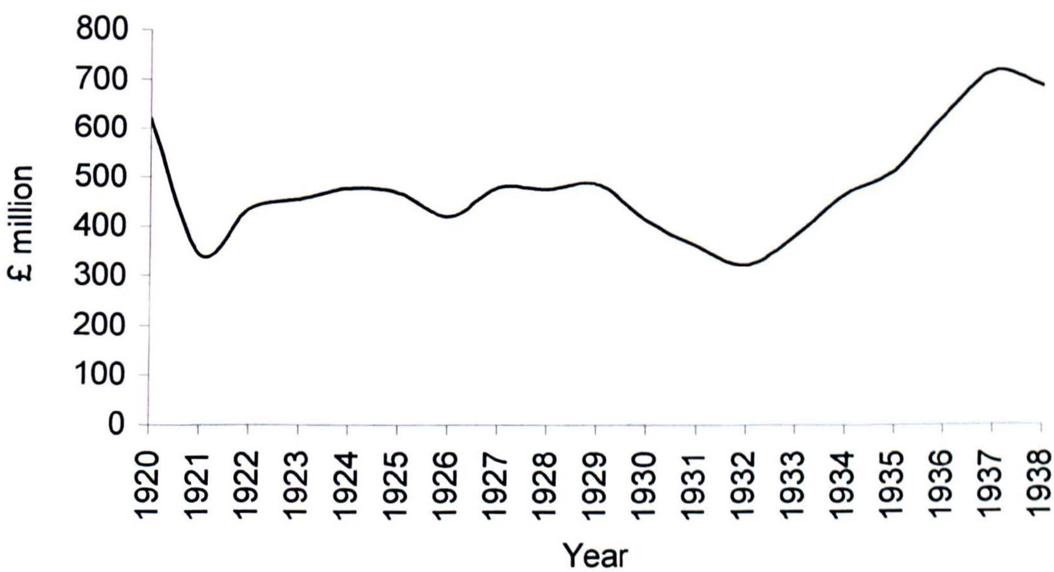

Figure A2.2 British Gross Trading Profits, 1919-38.

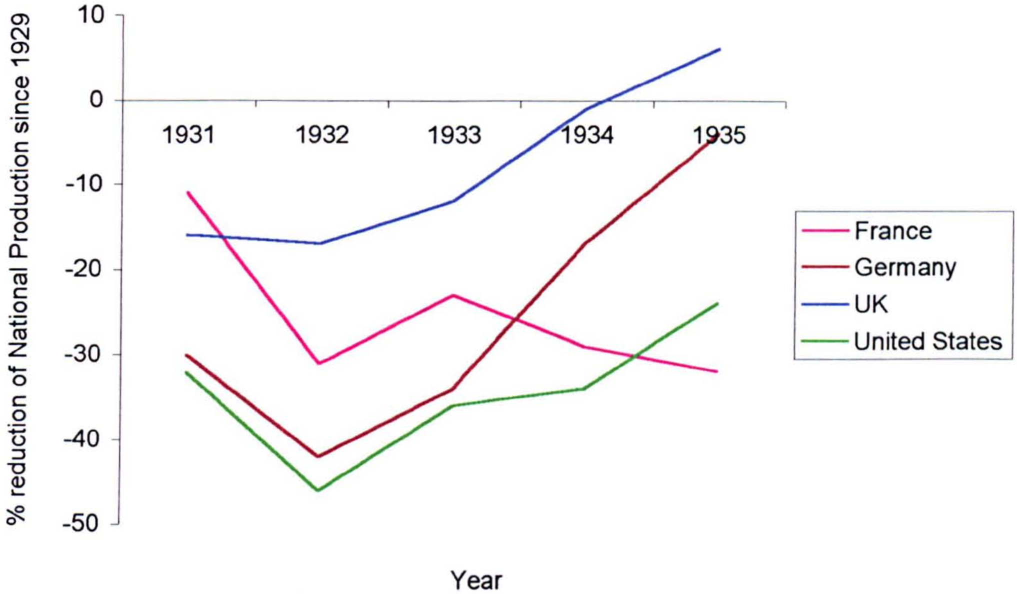

Figure A2.3 Comparison of National Recovery from Depression, 1931-5.

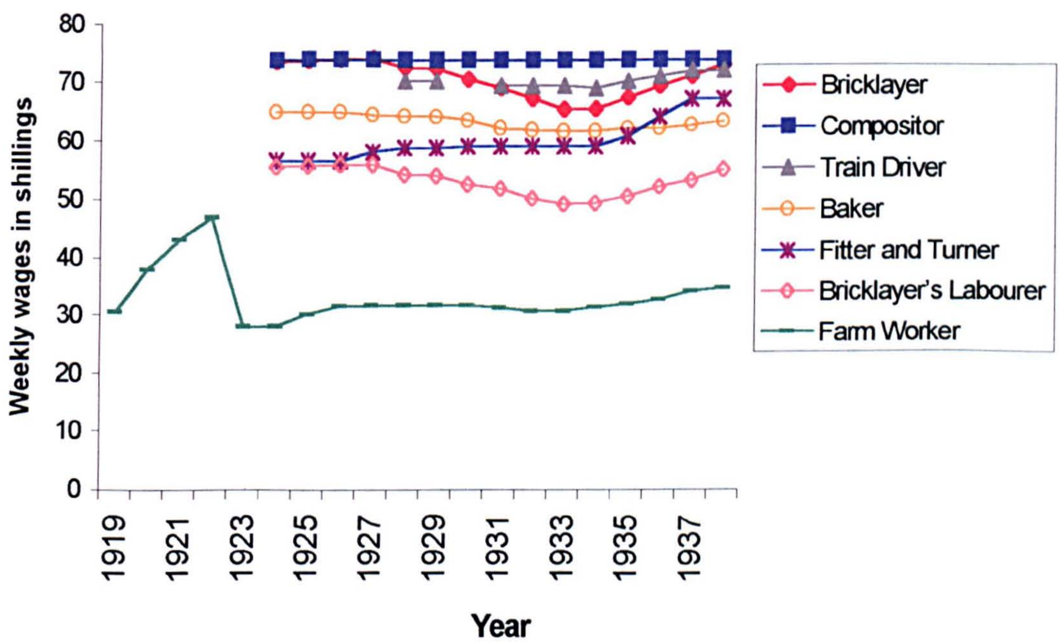

Figure A2.4 Comparative Wage Levels, 1919-38.

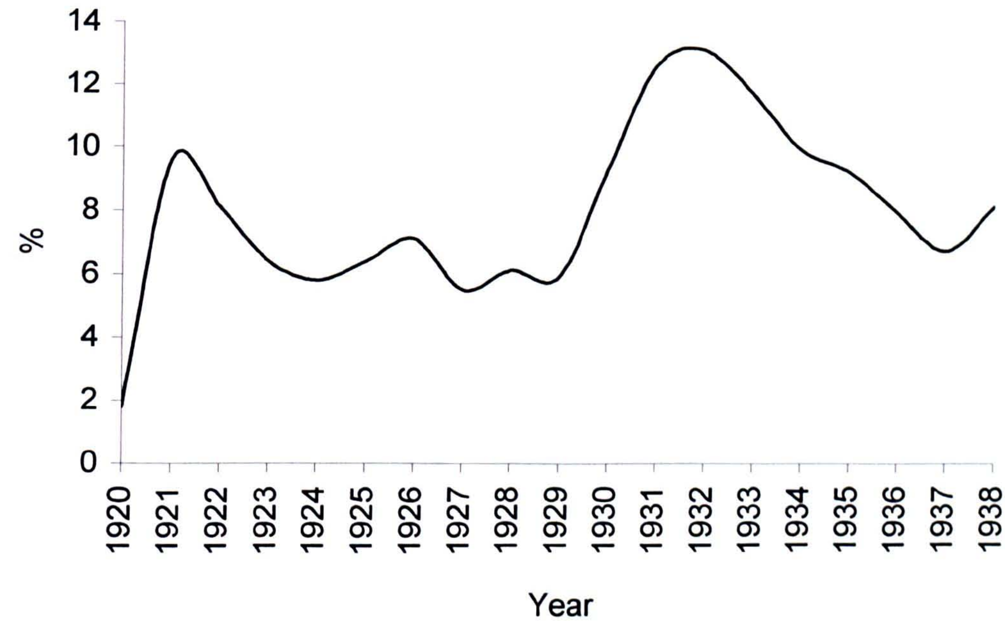

Figure A2.5 Proportion of Total Workforce Unemployed, 1920-38.

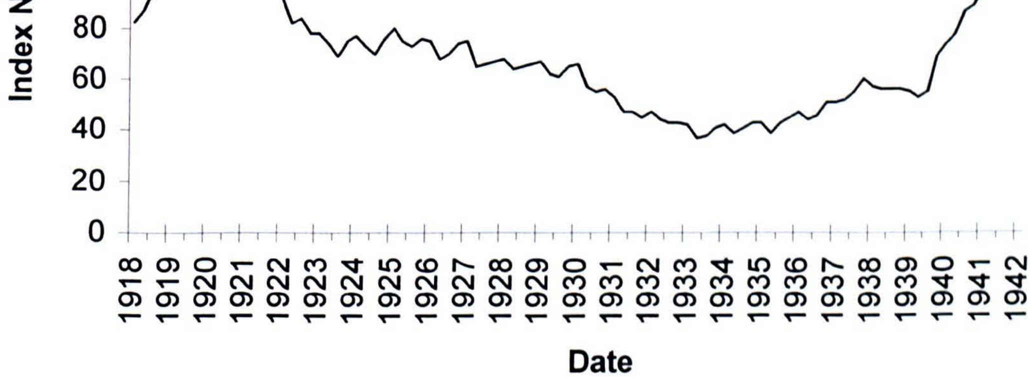

Figure A2.6 Cost of Living Index

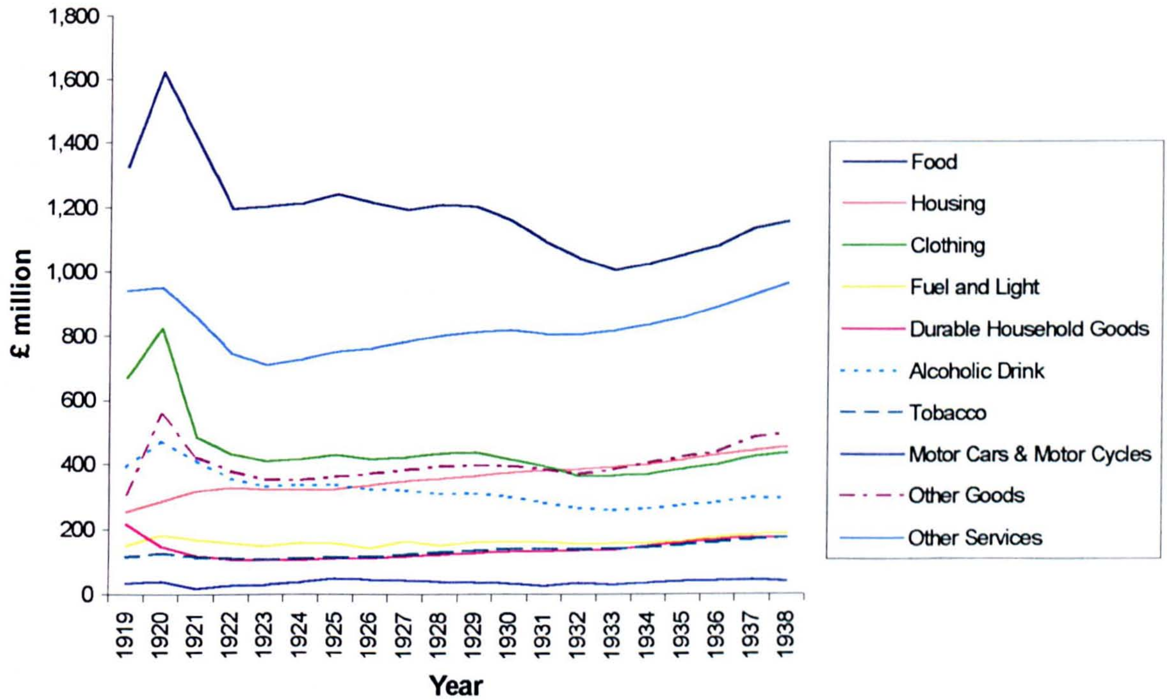

Figure A2.7 Consumer Expenditure, 1919-38.

Appendix 3: The Wallpaper Industry

A3.1 Structure

The wallpaper industry in Britain was dominated by the Wallpaper Manufacturers Ltd.[1] The WPM was incorporated as a joint stock company in 1899, merging 31 firms, which controlled almost 98% of the British wallpaper industry. This cartel held a monopoly in 1915-20, but lost this position in the post-war competition. It bought Arthur Sandersons & Sons Ltd. in 1929,[2] seven additional wallpaper companies in 1934, and was responsible for 70% of the national wallpaper output by 1939. Development of overseas markets and investment (in the Canadian Wallpaper Manufacturers Ltd.) was part of its responsibility. The industry was concentrated in Darwen, Lancashire, with the majority of WPM works in this district.[3] However, in addition to the WPM, there were many smaller wallpaper companies, listed in local trade directories.[4] The 1935 Census of Production states that there were 41 firms engaged wholly or mainly in the manufacture of paper hangings in 1935 (see Table A3.1).[5]

[1] BT 64/ 292.
[2] It had a purchase price of £880,388 (A. Sanderson & Sons Ltd. archive).
[3] WPM branches included: Anaglypta Branch (Darwen), Carlisle & Clegg (Stockport), Allan Cockshut (London), Darwen Paper Staining Co. Ltd. (Darwen), Doncaster Branch, The Holmes Chapel Branch, Fred W. Howarth (Manchester), Huntington Frères (Darwen), Kinder & Co. (Irlam), Lightbown Aspinall (Stockport), Ligonur Branch (Darwen), Lincrusta Walton (Darwen), John Line (London) Osborne & Shearman (London), Potters Co. and C. & J.G. Potter (both Darwen), Smith & Butler (Leeds), Walker Carver Branch (Pendleton), Wylie & Lochhead (Glasgow) and Yates Dauncey (Newton Le Willows). Branches listed in Sanderson Studio Design Book.
[4] Examples include: London (M.H. Birge & Sons Ltd.., S.M. Bryde & Co. Ltd., Curwen Press, Heffer, Scott & Co. Ltd., Shand Kydd Ltd., H. Southall & Co. Ltd.); Birmingham (Burtons Paper & Cardboard Co. Ltd.); Darwen (County End Paper Mill Co. Ltd.); Edinburgh (Scott Morton & Tynecastle Co.); Hull (John Stathes & Sons); Leicester (British Embossed Paper Company Ltd., English Wallpaper Makers Ltd., Leatherette and Fancy Papers Ltd., Leicester Paper Staining Company Ltd., Leicester Wallpaper Company); Leicestershire (Coalville: Charles March & Sons; Hinckley: Midland Paper Staining Company Ltd.); Macclesfield (Allan B. Curlisles & Sons Ltd.); Newcastle (North of England Wallpaper Co.); Nottingham (Howitt Wallpaper Co. Ltd.); Preston (J.R. Hodgson Ltd., Newsham, Greenwood & Co. Ltd.); Worcester (W. Low Ltd.).
[5] *1935 Census of Production*, Board of Trade: Manchester Library, Parl. 338 T9.

Table A3.1

Average number employed	**Number of establishments**	**Total Number Employed**	**Gross Output (£'000)**
10 or fewer	4	27	Not stated
11-24	7	132	50
25-49	7	276	64
50-199	14	1677	936
200+	9	4011	2214
Total	**41**	**6123**	**3264**

A3.2 Economics

The economic condition of the wallpaper industry was markedly different to the printed textiles industry, being a pattern of expansion and increased prosperity. British output rose from 808,000 cwts of wallpaper in 1924 to 1156,000 cwts in 1935.[6] This sector of furnishing decoration increased production by 30% from the 1924 census of production to the 1935 census, resulting in an increase of 136,000 cwt from 1912 (See Table A3.2).[7] At Arthur Sanderson & Sons Ltd., the rise in production of new freelance designs was 297% (from 36 to 107) over the 1924-35 period of the census.[8] The increase in volume of trade does not appear to have come from the WPM: between 1921 and 1933 the W.P.M. volume of trade was maintained.[9] A much lower proportion of wallpaper than printed fabric produced in the U.K. was exported - between 15.9% in 1924 and 8.5% in 1935 (See Table A3.3).[10] The world depression thus had a slighter impact, since Britain suffered less severely from the depression,[11] and a boom in house building was encouraging greater expenditure on furnishings.[12]

[6] BT 64/ 292.
[7] *1935 Census of Production*, op. cit.
[8] Analysis based on Sanderson Database, personally compiled from Design Books, Sanderson Archive.
[9] BT 64/ 292.
[10] *1935 Census of Production*, op. cit.
[11] BT 70/ 55/ s959/ 1936.
[12] BT 64/ 292.

Table A3.2. Wallpaper Production in U.K.

Year	Value	Quantity
	Millions £	cwts x10^3
1912	1.5	1020
1924	2.8	808
1930	3.2	944
1935	3.3	1156

Table A3.3.

Year	UK Manufacturers' share of home market	Exported production
	%	%
1912	93	12.3
1924	90.7	15.9
1930	86.9	12.5
1935	96.3	8.5

A3.3 Retail

The picture of a dynamic domestic market for the wallpaper industry is confirmed by the growth of retail stores. There was a particularly speedy expansion of national chains, such as White's Wallpaper Warehouses, Brighter Homes, Walpamur and Modern Wallpapers Ltd. In Nottingham, there was a sudden boom in wallpaper shops in the period, from 2 or 3 in 1922 (Abraham Blaskey also described as lace curtain manufacturer) to 57 in 1936.[13] The volume of such a retail cluster is exceptional: it is possible that this is a regional or national centre of distribution. Durham appears to be a regional centre, since more warehouses are shown than wallpaper/ paperhangings merchants (23 in 1929 compared with 15 wallpaper merchants, with two common to both lists).[14]

This increase in the number of specialist wallpaper/ paper hanging shops may indicate a change in the way wallpaper was purchased: previously decorators received the sample books and recommended schemes to the consumer, encouraging conventionalised design and a stable market. Interior designers and decorators may have had a separate collection of sample books, offering a particular approach and selection of designs to their clients: Thos. Metcalfe & Sons, from Darlington (a decorator), advertises 'All the latest High-class London Patterns to select from.'[15] A market advantage from this burgeoning competition was offered to dealers who only sold Wallpaper Manufacturers Ltd. products: 'loyalty rebates' of 15%.[16] This would have made a significant difference, especially since wallpapers were already very profitable to the retailer, selling with a 50% profit (a 10d paper sold for 15d).[17] Pattern books gave sheet number and price: no names, except on some more expensive papers.[18] In the 1930s, three papers were often sold together: panel, border and plain.[19] The academic and public interest in wallpaper design (as shown by the number of exhibitions of wallpaper: see list), also appears to have increased in the later 1930s, particularly in France and the United States.

[13] Analysis of a series of Nottingham Trades Directories.
[14] 1929 Kelly's Directory for Durham and Northumberland (Durham section).
[15] 1938 Kelly's Directory for Durham and Northumberland, p15.
[16] BT 64/ 292.
[17] Mrs Elizabeth Smith (wallpaper retailer), interviews with Emily Baines, July and October 1995.
[18] Ibid.
[19] Ibid.

A3.4 Designers

The total number of wallpaper designers appears to be far greater than textile designers, although there was some cross-over. There also appears to be a higher proportion of freelance textile design designed by women in the period than freelance wallpaper design (see Figure A3.4). Sanderson analysis shows that the majority of freelance design bought for wallpaper is from individuals, although the Continental design is mainly from studios. A significant proportion of designs were supplied by French (25%) and German sources (15%), with 58% from British designers (Figure A3.6). The proportion of foreign designs was far higher during the 1930s than 1920s (Figure A3.5), a contradictory trend to that in printed textile design. London dominates the distribution of British freelance designers, with the remaining designers scattered widely over the country, although much of the wallpaper industry was based in Darwen and Stockport, Lancashire. The range of addresses shown for freelance designers at Arthur Sanderson & Son Ltd., especially female (Canterbury, Thanet, Newport, and York all have only one, female, freelance designer) is remarkably widespread, even though the majority are in London, with trade clusters, such as Chiswick. This indicates the convenience of this type of work: it was possible to work at home, and at a personal speed.

A3.5 Analysis of A. Sanderson & Sons Ltd. Wallpaper Design

The Sanderson archive shows that almost 3000 freelance designs were bought over the two inter-war decades. The rate of new freelance and studio designs bought and produced is shown in Figure A3.1, but note should be taken that the studio records only show 1933 onwards. The difference between designs bought and produced reflect the level of economic confidence, with an exaggeration of recessions and booms. However, the rise in designs bought of 1924-7 is disproportionate to the level of general industrial production and may indicate an internal change, such as the attainment of profitability of the Eton Rural Fabrics division.[20] Studio design shows a big 1930s boom due to new investment, following the take-over of Sandersons by the WPM in 1929. The Sandersons studio also began producing a range of graphic design

[20] Initial losses, due to recession and the 'swamping of the market by selling of war stocks at any price', were recovered by 1925: a loss of £47, 978 in 1923 had risen to a net profit of £1, 736 with an increase in sales of 60%. Woods, C. *Sandersons 1860-1985*, Arthur Sanderson and Sons Ltd., catalogue, July-

agency work, including printed pelmet/ banner advertising, crackers, carrier bags and box designs (Figure A3.7). This combination of design was not entirely unusual: the Curwen Press designed and printed wallpaper as well as advertising material.[21] The cost of freelance wallpaper designs was considerably lower than printed textile designs, being £8 or less for the majority of designs (Figure A3.3). The low proportion of block print designs shown in 1932-3 (Figure A3.2) may indicate a similar strategy to that noted in the printed textile industry of price reduction during the depression.

Analysis of trends in design, as they appear in Sandersons design books, shows a clear change in the design approach - from 6.7% (8) of freelance designs listed in 1927 that could be described as abstract, to a studio with 41.5% (137) abstract designs in 1935. Designs described as 'modern' were purchased from 7 freelance designers, including two French studios and one German studio (total of 24 designs from 1919-1940).[22] There were 342 'modern' designs produced in the studio from 1933-40, from 22 designers.[23] Designs described as 'futuristic' were only produced in the studio, from 1933-4 (Figure A3.10).[24] Eric Gilboy (a Sanderson design assistant) referred to this as the Jazz period, describing it as: 'the worst period ever . . You could do anything, you didn't have to be skilled.'[25] Pevsner describes the style trends in wallpaper of the period as a sudden replacement of floral period designs with riotous pseudo-cubistic design in c1931, with colours softened to a pastel range a few years later, followed by a fashion for plain stipple effect papers and some decorative appliqué borders.[26] The trends shown in Figure A3.8 corroborate the suggestion of a change in design style in 1931. Wallpaper was regarded as non-Modernist almost by definition, and alternatives

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October 1985, p38.

[21] Simon, H. *Song and Words: A History of the Curwen Press*, George Allen & Unwin Ltd, 1973 primarily discusses the advertising and book publishing, while wallpaper examples are given in Banham, J. *Wallpapers: 17th Century to the Present Day*, Studio Editions, 1990 and Greysmith, B. *Wallpaper*, Studio Vista, London, 1976.

[22] James Haward, Winifred Marchant, J. Scarratt Rigby and A.L. Davignon in Britain; M. Libert, C.J./Max Forrer in France; H. Raabe in Germany.

[23] E.V.Briand, H. Bailey, Miss Foord, C. Gibbons, Mr Francis (W.G.?), C. Smith, R. Pannell, P. Simpson, V. Brown, A. Higgs, H. Chandler, W.(R.) Farquhar, A.E. Stenlake, (Mr W.?) H.W.Wild, S. Cohen, W. Smith, (Mr?) E. Brand, G. Brand, J. Hill, G. Watkins, E. de Grey and Dilworth.

[24] Produced by Francis, Smith, Briand, Farquhar, Gibbons, Stenlake, Foord, Wild, Bailey, Simpson, Higgs, Pannell and Hill.

[25] Oral history transcript of interview with Eric Gilboy (textile designer) by Christine Woods, 11/4/91, A. Sanderson & Sons Ltd. archive, p29.

[26] Pevsner, N. op. cit., pp69-70.

of reflective surfaces or plywood boarding were chosen by interior decorators, architects and exhibition organisers.[27] However, Modernist and abstract designs were affordable, because of the high proportion of borders produced - the cheapest way to follow fashions in house decoration. The popular demand for Modernist and abstract design is implied by the quantity designed in the studio, and the unusually high proportion of designs produced. These findings challenge the critical view that Modernist design was an élitist and unpopular style. Brenda Greysmith states that England 'had for decades been undergoing a comparatively barren period' apparently due to the 'little understanding in England . . of movements on the Continent'.[28] The assumption that innovation in pattern design was Francocentric, promoted by the 1925 Paris Arts Decoratifs Exhibition, is undermined by the low level of wallpaper imports and lack of distinctive design in the French freelance purchases.

[27] Yorke, F.R.S. 'Modern Wall Coverings', *Architectural Review*, February 1932, pp71-80. He discusses a wide range of boards, plastic paint, etc. and ends with a brief note on wallpaper: 'Wallpaper, that old exponent of disgusting designs, has declined in popularity and become a standing joke merely because the manufacturers lack the initiative to introduce patterns which, because they stray a little from the accepted flowery groove, may be a slight financial risk.' The example he suggests is an English firm now making a range of aluminium foil papers.
[28] Greysmith, B. *Wallpaper*, Studio Vista, London, 1976, p168.

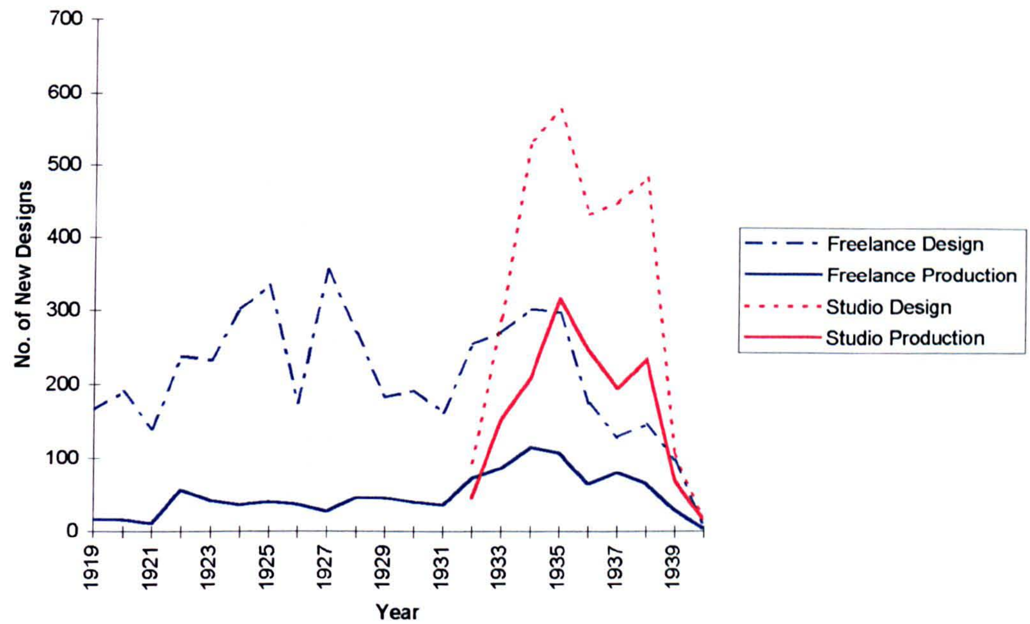

Figure A3.1 A. Sanderson & Son Ltd. Freelance and Studio Design Records, 1919-40.

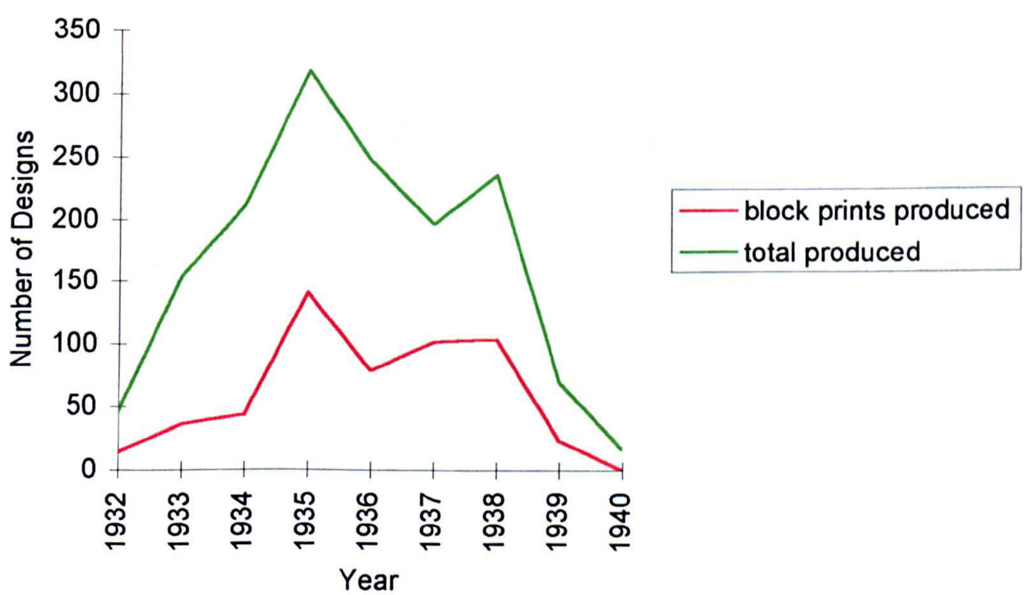

Figure A3.2 Proportion of Block Prints in Studio Designs

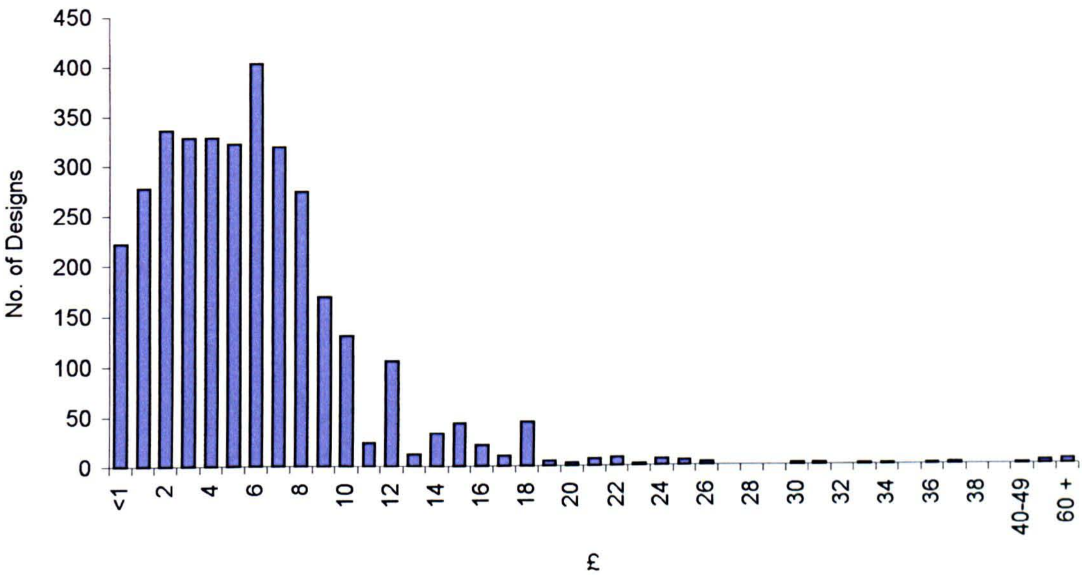

Figure A3.3 Cost of Freelance Designs

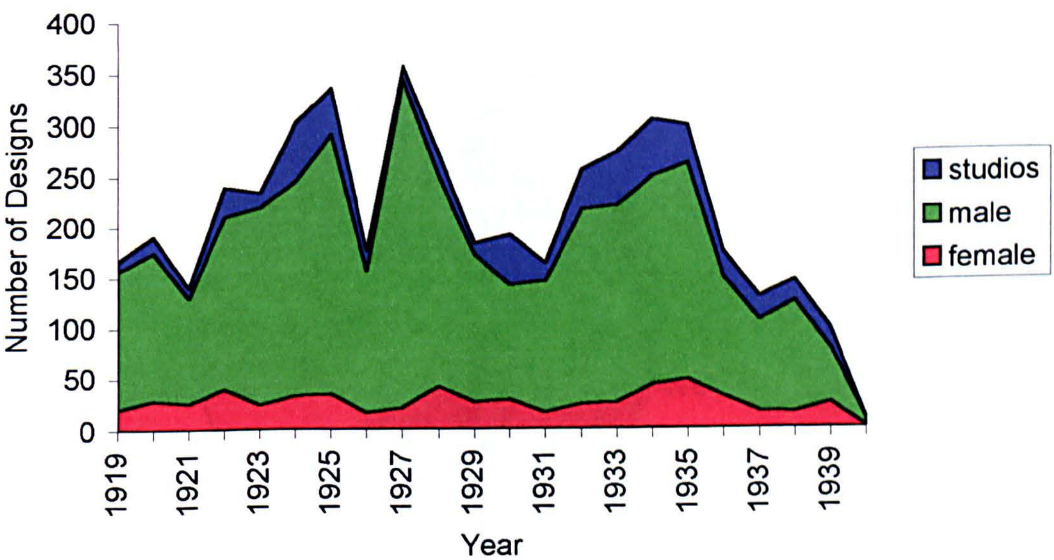

Figure A3.4 Gender Analysis of Freelance Design Source

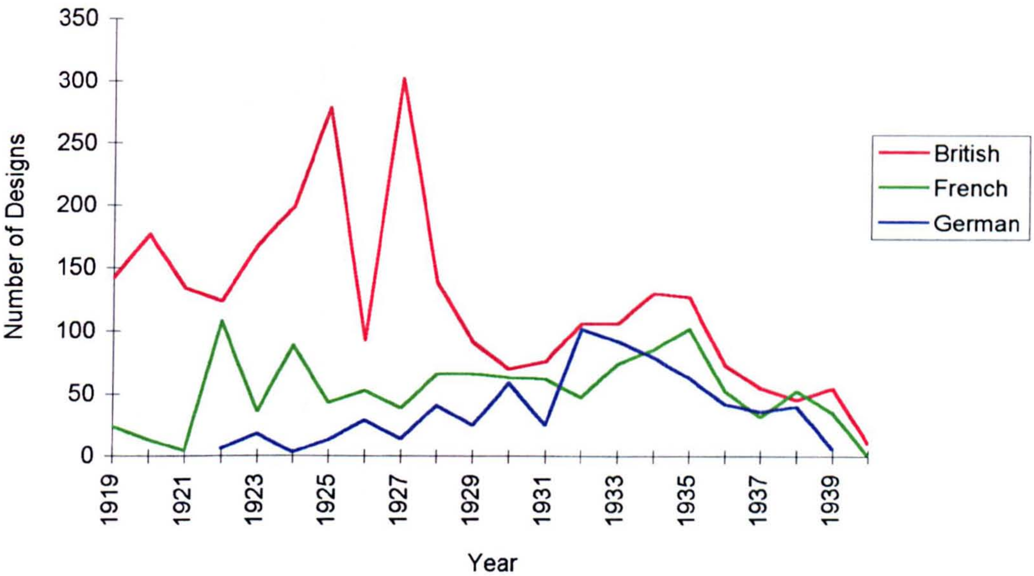

Figure A3.5 A. Sanderson & Son Ltd. Freelance Design Sources, 1919-40.

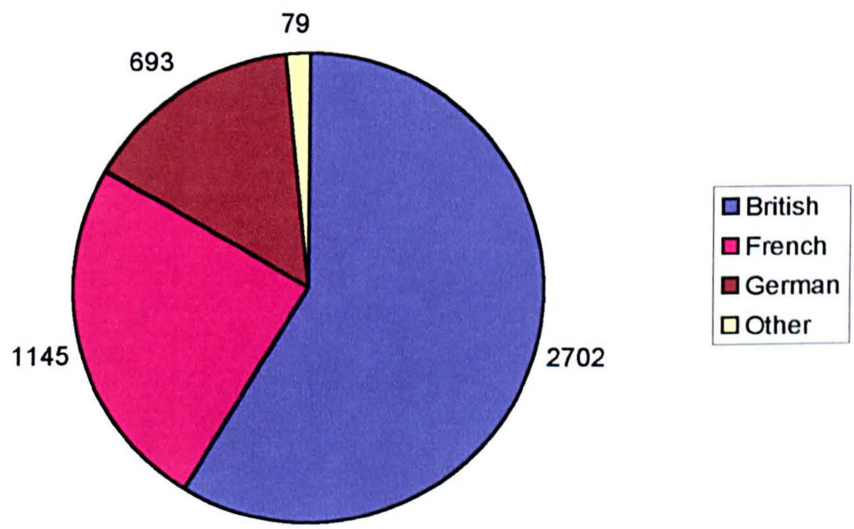

Figure A3.6 Analysis of Geographical Source of all A. Sanderson & Son Ltd. Freelance Designs, 1919-40.

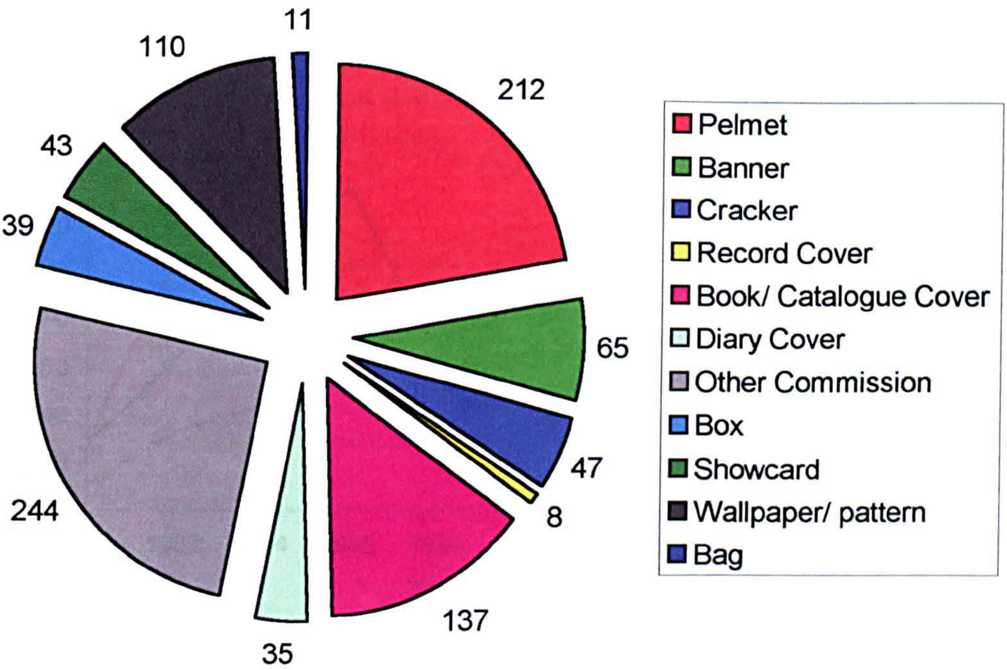

Figure A3.7 Types of Design Produced as a Commission for Other Companies or Branches of the WPM.

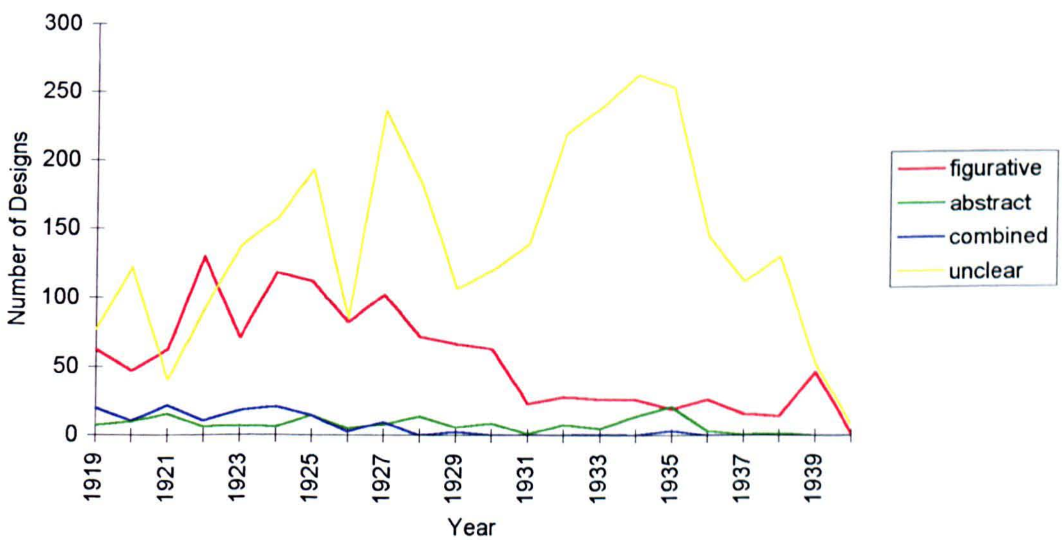

Figure A3.8 Stylistic Analysis of A. Sanderson & Son Ltd. Freelance Designs, 1919-40.

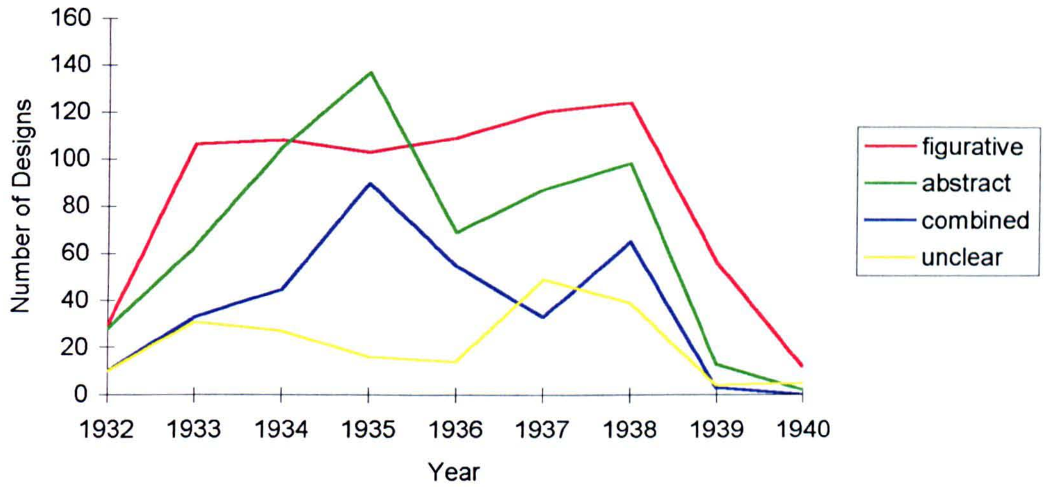

Figure A3.9 Stylistic Analysis of A. Sanderson & Son Ltd. Studio Design, 1932-40.

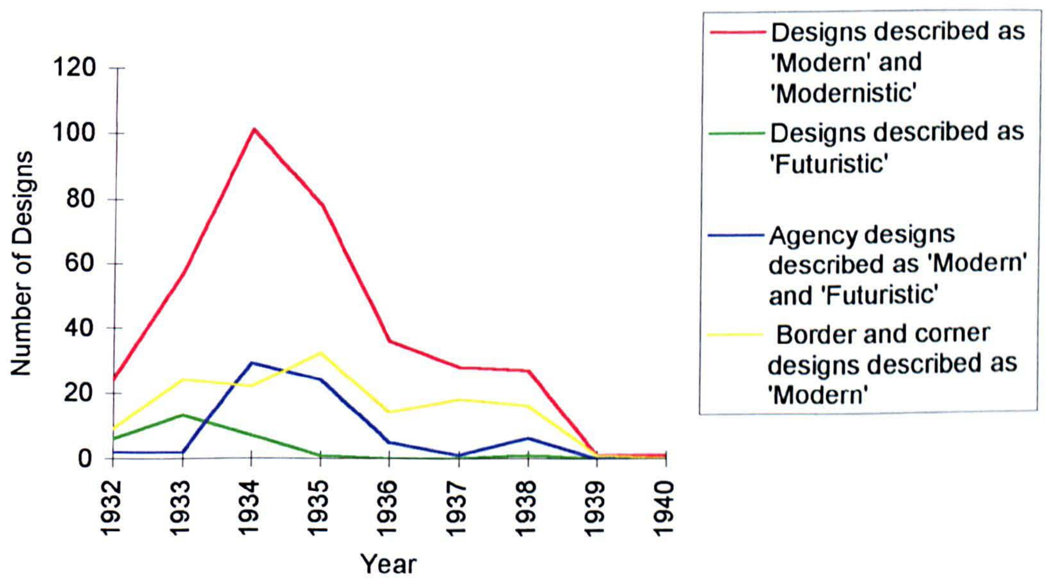

Figure A3.10 Analysis of Modern, Modernistic and Futuristic Designs

Appendix 4: Ferguson Bros. Ltd. Investment and Processes

Appendix 4.1

Ferguson Bros. Ltd. capital investment, from Board Meeting Minutes.[1]

Date of Board Meeting	Item	Expenditure
22/4/20	Boiler for Print Works	£1860
	Lathe	£298
	10% coal elevators	£200+
21/12/21	New Finishing Room and alterations to Drug Room	£1000
6/7/22	New buildings and machinery for Printworks and Dyehouse extensions	£24,000
29/8/22	6 Drawing Frames	£1,500
17/11/22	Ball bearings to be applied to Line Shafting of No. 3 Shed	£600
5/1/23	1 Hydraulic Hot Press	£715
19/9/23	Re-erection of Shafting with ball bearings in No. 1 and 2 Weaving Sheds	£2,000
21/11/23	Aniline Dyeing Machine for Print Works	£1,240
12/3/24	3 Intermediate Frames	£700
21/3/24	7 Colour Printing Machines	£2,300
	Electric Drive for No. 4 Spinning Room	Max. £1,500
29/8/24	Extension of Finishing Dept. (including bridge across dam)	Estimated at £5,500
3/10/24	90ft Jigger Stentering Machine	No price given

[1] DB 110/ 228 Minute Book of Directors' Meetings, 1919-28; DB 110/ 229 Minute Book of Directors' Meetings, 1928-37; DB 110/ 230 Minute Book of Directors' Meetings, 1937-45.

	1 Barber & Colman's Drawing In Machine	£839
31/10/24	7 Colour Printing Machines and Motors	£2,085
5/12/24	24 Motors to drive looms	£500
16/9/25	Stentering Plant	max. £1,000
19/11/25	80 Looms for New Weaving Shed	max. £3,000
15/10/26	Electrification of 50HP Engine	max £5,000
21/12/26	Aniline Room re-roofed	Estimated at £800
13/1/27	3 Ring Frames	£900
25/1/27	2 Ring Frames	£600
21/6/27	Drying Cans, Mangle and Motor for New Dyehouse	£800
8/9/27	Extension to Roller Room	£1,000
	Warehouse	£3,000
	Filter, Electric Shops and Garage	£5,000
21/10/27	Further extension to Roller Room	£1,400
9/12/27	Hydraulic Press	£1,000
14/6/28	3 Remington Bookkeeping machines and stands	£565/ 10
	1 Comptometer	£96
29/11/28	Conversion of DC motors to AC, over 5-6 years	Estimated at £1,000
19/4/29	Conversion of No. 3 Spinning Room from steam to electric	Estimated at £1,100
10/9/29	Ruth's Steam Accumulator	£4,150
28/11/33	Special Embossing Calendar	Maximum £900

23/11/34	3 Twist Ring Frames of 404 spindles	£1,134
22/1/35	Polysamplex Sampling Machine from Vienna	Maximum £750
11/3/36	Crease R. Plant, including ventilating apparatus and motors	£2,000
26/6/36	Warp Tying Machine	£930

Appendix 4.2

Calico Finishing Processes[2]:

Singeing The surface nap of the fabric is removed by the cloth passing through 2 or 3 gas flames running across the width. This does no damage, due to the speed at which the cloth passes through - about 120 yards per minute.

Mercerising Patented in 1850 by John Mercer, but not widely used for almost 50 years: Caustic soda is applied to the cloth, causing it to shrink, making it denser and stronger, and the threads to untwist, giving a more silky, reflective and transparent appearance. The soda (is neutralised by acid?), stretched over a frame to prevent width shrinkage, and washed with boiling water.

Bleaching Cloth travels to bleach house in rope form, through rings and pot-eyes. When there it undergoes prolonged boiling in a caustic soda solution under pressure, to remove the size and natural wax of the cloth. It then goes through various washing and scouring operations, before having the actual bleaching agent, chloride of lime, applied to it. The original yellowish-grey colour has given way to a pure white.

Dyeing The cloth in rope form is opened out to full width by passing it through a **scutching** machine, then mangled and passed onto the dyeing machines (**jiggers**). Here it passes several times backwards and forwards through solutions of dyes, usually aniline. A principal method of dyeing black cloth is the aniline oxidation process, in which a colourless solution turns the cloth green when it is steamed, and then goes black.

Printing a copper roller for each colour, above a padded feed roller, which passes colour on from a trough, with a **doctor** (flat metal plate) removing it apart from that in the engraved bits. An alternative method is imprinting a colour-discharging mixture onto dyed cloth, which replaces the original colour with a range of new shades. A '**steaming cottage**' or continuous steaming plant then fixes and develops the colour. It then goes through the '**open soaping machine**' or tanks in which boiling soap and water are thrown up forcibly against the cloth to remove printing starch.

[2] *Centenary Ferguson Brothers, Holme Head Works, Carlisle, 1824-1924*, Charles Thurnam & Sons, 1924.

Sometimes this occurs with the fabric in a rope form, and scutching machines open it afterwards.

Beetling Joseph Ferguson first applied beetling to cotton: the cloth is first damped by a fine water spray from a brush revolving through a trough, then wound on big beams and pounded rapidly by a series of hammers as the beams revolve. The newer machines have 21 iron hammers, which work in a row using an eccentric crank and springs. This gives a smooth, bright, permanent finish.

Calendering This is an ironing system: the cloth passes through a hard roller or '**bowl**' of steel or chilled iron and one of wood or iron covered with compressed paper or cotton fibre.

Schreinering A type of calendering invented by Dr Schreiner, of Barmen, in which fine lines are cut on the rollers, at a density of 200 or more lines to the inch. The roller is run at very high pressure, giving a rich, lustrous appearance, and is generally used for fine satteens which have previously been mercerised.

The cloth is examined fold by fold after processes, such as after dyeing, before and after printing, and after finishing. It is then folded in the warehouse by a '**wedge-and-slit**' contrivance, which also automatically measures it.